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THE Journal OF THE Kansas Medical Society

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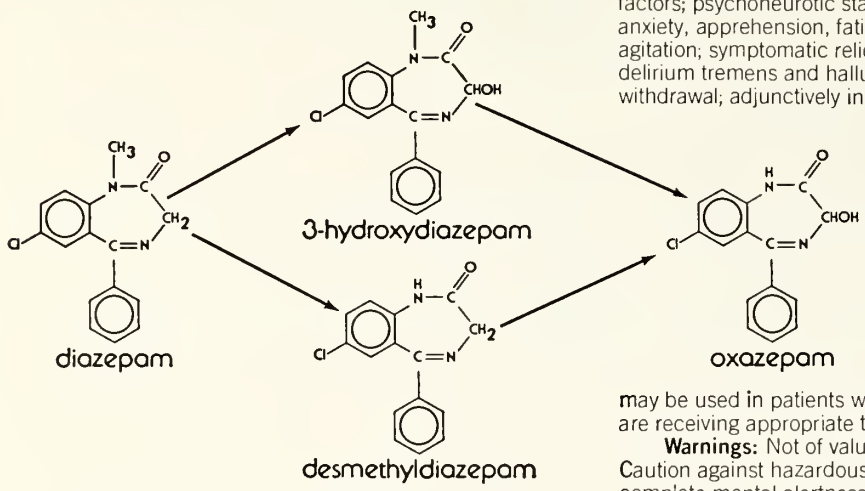
A pharmacokinetic character all its own



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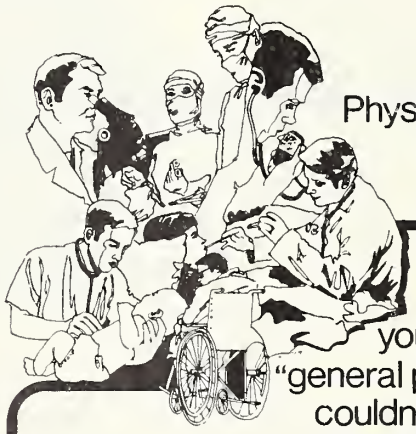

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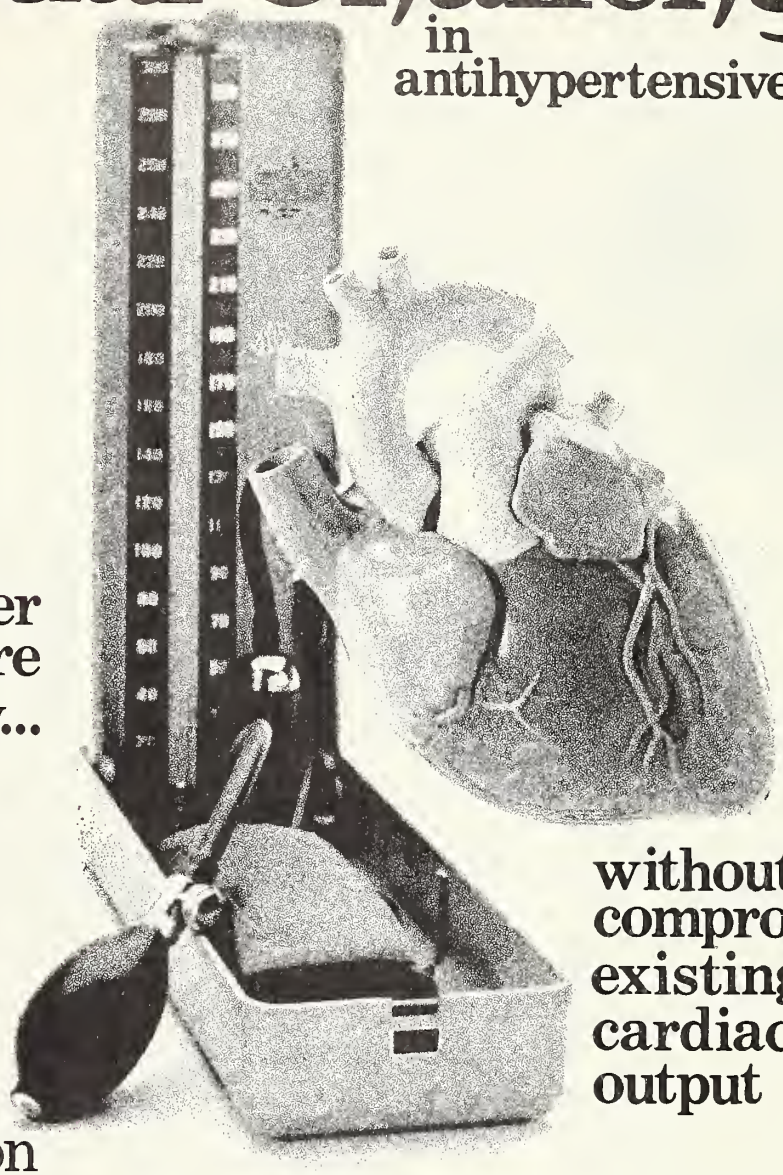

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It is important to recognize that a positive Coombs test, hemolytic anemia, and liver disorders may occur with methyldopa therapy. The rare occurrences of hemolytic anemia or liver disorders could lead to potentially fatal complications unless properly recognized and managed. For more details see the brief summary of prescribing information.

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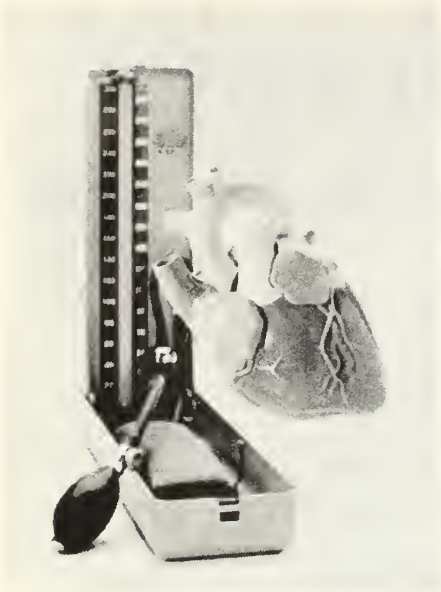

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helps lower blood pressure effectively... usually with no direct effect on cardiac function– cardiac output is usually maintained

Contraindications: Active hepatic disease, such as acute hepatitis and active cirrhosis; if previous methyldopa therapy has been associated with liver disorders (see Warnings); hypersensitivity.

Warnings: It is important to recognize that a positive Coombs test, hemolytic anemia, and liver disorders may occur with methyldopa therapy. The rare occurrences of hemolytic anemia or liver disorders could lead to potentially fatal complications unless properly recognized and managed. Read this section carefully to understand these reactions.

With prolonged methyldopa therapy, 10% to 20% of patients develop a positive direct Coombs test, usually between 6 and 12 months of therapy. Lowest incidence is at daily dosage of 1 g or less. This on rare occasions may be associated with hemolytic anemia, which could lead to potentially fatal complications. One cannot predict which patients with a positive direct Coombs test may develop hemolytic anemia. Prior existence or development of a positive direct Coombs test is not in itself a contraindication to use of methyldopa. If a positive Coombs test develops during methyldopa therapy, determine whether hemolytic anemia exists and whether the positive Coombs test may be a problem. For example, in addition to a positive direct Coombs test there is less often a positive indirect Coombs test which may interfere with cross matching of blood.

At the start of methyldopa therapy, it is desirable to do a blood count (hematocrit, hemoglobin, or red cell count) for a baseline or to establish whether there is anemia. Periodic blood counts should be done during therapy to detect hemolytic anemia. It may be useful to do a direct Coombs test before therapy and at 6 and 12 months after the start of therapy. If Coombs-positive hemolytic anemia occurs, the cause may be methyldopa and the drug should be discontinued. Usually the anemia remits promptly. If not, corticosteroids may be given and other causes of anemia should be considered. If the hemolytic anemia is related to methyldopa, the drug should not be reinstituted. When methyldopa causes Coombs positivity alone or with hemolytic anemia, the red cell is usually coated with gamma globulin of the IgG (gamma G) class only. The positive Coombs test may not revert to normal until weeks to months after methyldopa is stopped.

Should the need for transfusion arise in a patient receiving methyldopa, both a direct and an indirect Coombs test should be performed on his blood. In the absence of hemolytic anemia, usually only the direct Coombs test will be positive. A positive direct Coombs test alone will not interfere with typing or cross matching. If the indirect Coombs test is also positive, problems may arise in the major cross match and the assistance of a hematologist or transfusion expert will be needed.

Fever has occurred within first 3 weeks of therapy, sometimes with eosinophilia or abnormalities in liver function tests, such as serum alkaline phosphatase, serum transaminases (SGOT, SGPT), bilirubin, cephalin cholesterol flocculation, prothrombin time, and bromsulphalein retention. Jaundice, with or without fever, may occur, with onset usually in the first 2 to 3 months of therapy. In some patients the findings are consistent with those of cholestasis. Rarely fatal hepatic necrosis has been reported. These hepatic changes may represent hypersensitivity reactions; periodic determination of hepatic function should be done particularly during the first 6 to 12 weeks of therapy or whenever an unexplained fever occurs. If fever and abnormalities in liver function tests or jaundice appear, stop therapy with methyldopa. If caused by methyldopa, the temperature and abnormalities in liver function characteristically have reverted to normal when the drug was discontinued. Methyldopa should not be reinstituted in such patients.

Rarely, a reversible reduction of the white blood cell count with primary effect on granulocytes has been seen. Reversible thrombocytopenia has occurred rarely. When used with other antihypertensive drugs, potentiation of antihypertensive effect may occur. Patients should be followed carefully to detect side reactions or unusual manifestations of drug idiosyncrasy.

Use in Pregnancy: Use of any drug in women who are or may become pregnant requires that anticipated benefits be weighed against possible risks; possibility of fetal injury can not be excluded.

Precautions: Should be used with caution in patients with history of previous liver disease or dysfunction (see Warnings). May interfere with measurement of: uric acid by the phosphotungstate method, creatinine by the alkaline picrate method, and SGOT by colorimetric methods. Since methyldopa causes fluorescence in urine samples at the same wavelengths as catecholamines, falsely high levels of urinary catecholamines may be reported. This will interfere with the diagnosis of pheochromocytoma. It is important to recognize this phenomenon before a patient with a possible pheochromocytoma is subjected to surgery. Methyldopa is not recommended for patients with pheochromocytoma. Urine exposed to air after voiding may darken because of breakdown of methyldopa or its metabolites.

Stop drug if involuntary choreoathetotic movements occur in patients with severe bilateral cerebrovascular disease. Patients may require reduced doses of anesthetics; hypotension occurring during anesthesia usually can be controlled with vasopressors. Hypertension has recurred after dialysis in patients on methyldopa because the drug is removed by this procedure.

Adverse Reactions: *Central nervous system:* Sedation, headache, asthenia or weakness, usually early and transient; dizziness, lightheadedness, symptoms of cerebrovascular insufficiency, paresthesias, parkinsonism, Bell's palsy, decreased mental acuity, involuntary choreoathetotic movements; psychic disturbances, including nightmares and reversible mild psychoses or depression.

Cardiovascular: Bradycardia, aggravation of angina pectoris. Orthostatic hypotension (decrease daily dosage). Edema (and weight gain) usually relieved by use of a diuretic. (Discontinue methyldopa if edema progresses or signs of heart failure appear.)

Gastrointestinal: Nausea, vomiting, distention, constipation, flatus, diarrhea, mild dryness of mouth, sore or "black" tongue, pancreatitis, sialadenitis.

Hepatic: Abnormal liver function tests, jaundice, liver disorders.

Hematologic: Positive Coombs test, hemolytic anemia. Leukopenia, granulocytopenia, thrombocytopenia.

Allergic: Drug-related fever, myocarditis.

Other: Nasal stuffiness, rise in BUN, breast enlargement, gynecomastia, lactation, impotence, decreased libido, dermatologic reactions including eczema and lichenoid eruptions, mild arthralgia, myalgia.

Note: Initial adult dosage should be limited to 500 mg daily when given with antihypertensives other than thiazides. Tolerance may occur, usually between second and third month of therapy; increased dosage or adding a thiazide frequently restores effective control. Patients with impaired renal function may respond to smaller doses. Syncope in older patients may be related to increased sensitivity and advanced arteriosclerotic vascular disease; this may be avoided by lower doses.

How Supplied: Tablets, containing 125 mg methyldopa each, in bottles of 100; Tablets, containing 250 mg methyldopa each, in single-unit packages of 100 and bottles of 100 and 1000; Tablets, containing 500 mg methyldopa each, in single-unit packages of 100 and bottles of 100.

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Scientific ARTICLES

Pericardial Cavity

A Simple Approach

THOMAS V. THOMAS, M.D. *and* **ROBERT P. SHERMAN, M.D.,**
Kansas City, Kansas

A simple approach to the pericardial cavity for drainage of pericardial effusion or hemo-pericardium as well as for implantation of permanent epicardial pacemaker electrodes have been adopted by the authors with success. The procedure is carried out in the intensive care or in the operating room under local anesthesia in the critically ill patients.

ACUTE PERICARDIAL tamponade is a clinical entity that requires prompt recognition and immediate therapeutic measures, regardless of the underlying etiological factors or general condition of the patient. The reward for appropriate surgical intervention and relief of the tamponade is most gratifying and the response dramatic. With the increasing incidence of knife and bullet wounds, acute hemopericardium is a common finding particularly in general hospitals. Pericardial aspiration and thoracotomy has been used successfully for patients with acute hemopericardium, and the medical literature of the last two decades has shown sufficient evidence of the controversies prevailing at different medical centers.[1, 2] Clinical experience of the author with 134 patients has been reported in the past with emphasis on our approach to such patients.[3]

Postoperative hemopericardium probably is the second most frequent cause of acute cardiac tamponade. With the sudden popularity of direct revascularization procedures for patients with coronary artery disease, the need for recognition and management of acute hemopericardium is likely to increase. Bleeding from suture lines, residual heparin activity, circulating fibrinolytic agents, and malfunctioning mediastinal tubes are the usual factors responsible for postoperative cardiac tamponade. In patients with long-standing valvular heart disease and pulmonary hypertension, or with large ventricular aneurysms, postoperative roentgenographic study of the chest is of little value in suspecting even massive hemopericardium. Monitoring of central venous pressure, auscultation of the heart, evaluation of the change in pulse pressure, and signs of low cardiac output are other considerations in suspecting cardiac tamponade. All these findings may be indistinguishable, however, from that of a patient with a large cardiac silhouette and low cardiac output from myocardial failure. Clinical experience with three postoperative patients in whom a simple infraxiphoid approach was used for diagnosis and treatment has been reported by one of the authors,[4] and the approach has since been utilized as a valuable step by others.

Less common causes that result in acute pericardial tamponade are azotemia, severe inflammatory diseases, radiation pericarditis, tumor invasion, and idiopathic

pericarditis. Neoplastic invasion of the pericardium is common and has been encountered with carcinoma of the lung and breast, thymona, and lymphoma. Patients treated with radiation of such tumors may later manifest enlarging cardiac silhouette and signs of pericardial tamponade.[5] The majority of the patients with azotemia, severe inflammatory diseases, or idiopathic causes will accumulate large amounts of pericardial fluid without significant cardiac embarrassment. Other causes of pericardial tamponade, although less frequent, are hemorrhagic effusion from myocardial infarctions, dissecting ascending aortic aneurysms, perforation of myocardium during cardiac catheterizations, extrusion of electrodes used for temporary and permanent cardiac pacing, and penetration of central venous pressure catheters into pericardium with infusion of fluids into the pericardial cavity. Patients with pericardial tamponade from the etiological factors listed above are not ideal candidates for general anesthesia or major surgical intervention. Pericardiocentesis with a large bore needle is the treatment of choice for these patients. Many of them will need repeated aspirations. For an alternative to repeated aspirations, or where aspirations are unsuccessful and the patient carries a prohibitive surgical risk for creating an open pericardial window, we have utilized a simple method by which an indwelling Foley catheter is inserted into the pericardial cavity under local anesthesia as a bedside procedure. Chest x-rays taken before and after such a procedure from an illustrative case are shown in *Figures 1, 2, and 3.*

Figure 1. Portable chest x-ray of a patient with rapidly progressive cardiorespiratory distress showing cardiomegaly of undetermined cause.

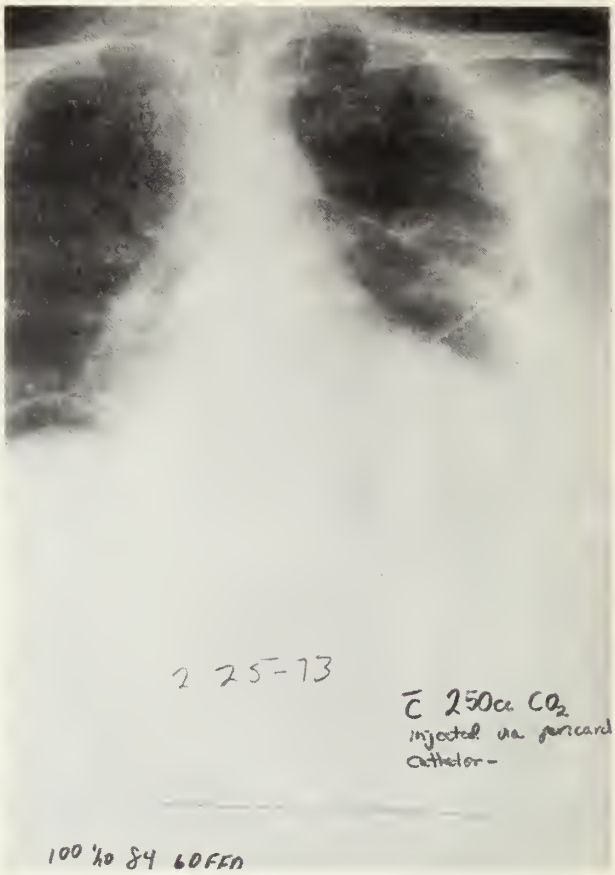

Figure 2. Size 16 Foley catheter inserted into the pericardial cavity of the patient described in Figure 1.

Technique

The xiphoid region of the patient is prepared with antiseptics and draped with towels. Sedation of the patient is helpful to allay his apprehension. The monitoring of a properly placed central venous pressure or a Swan-Ganz catheter is helpful in assessing the dramatic response obtained after placing the indwelling catheter into the pericardial cavity. Since the procedures we have carried out have been on critically ill patients in the intensive care unit, the patients have usually been connected to a cardiac monitor. A local anesthetic is infiltrated from the level of the base of the xiphoid process to its tip and into the angle between the xiphoid and coastal cartilages on the left side. A skin incision

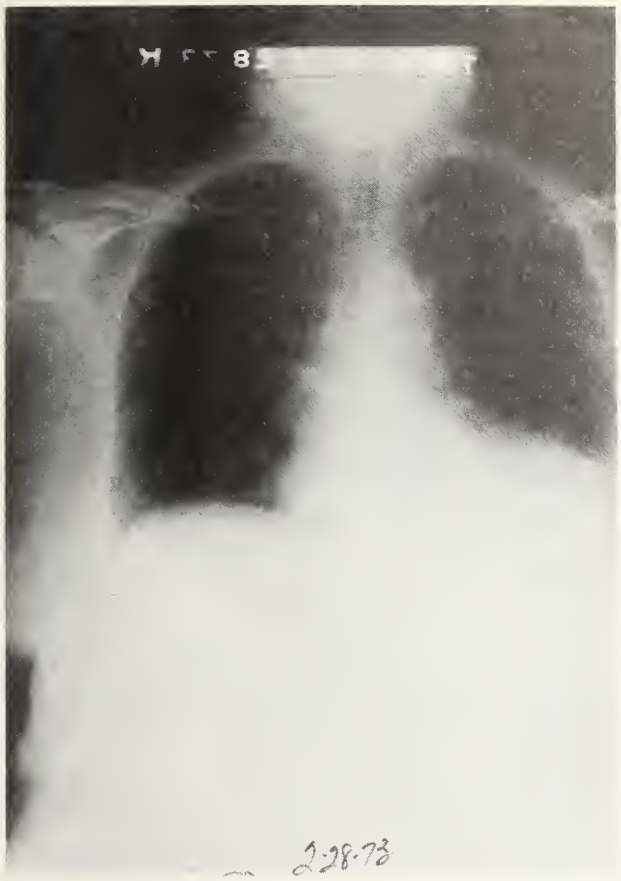

Figure 3. Chest x-ray of the patient described in Figures 1 and 2 after removal of the pericardial catheter. Note the significant improvement in the cardiac silhouette.

3-5 cm long is made in the upper midline and slightly to the left. The linea alba is divided, and the retrosternal space entered with a finger until the anterior edge of the diaphragm is palpable. With the left index finger acting as a guide, a small hemostat is advanced through the diaphragm, usually 1-2 cm posterior to the anterior edge. By spreading with the hemostat, the diaphragm and pericardium are punctured. The hemostat is then withdrawn, and the left index finger is used to occlude the opening to avoid flooding the field with pericardial fluid. A Foley catheter grasped with another hemostat is advanced into the opening and the hemostat is then withdrawn. As soon as the balloon portion of the catheter is in the pericardial cavity, it is inflated with 5-10 ml of saline or contrast material. Gentle traction is applied which helps to avoid excessive leak through the opening in the pericardium and diaphragm. The catheter is simply connected to gravity drainage or preferably to water-seal. A skin stitch is used to anchor the catheter to the skin edges, and the lower end of the incision is closed using two or three interrupted skin sutures. The fascia need not be closed. When a rent was produced in the peritoneum, it was usually left open. After the fluid has drained out, the catheter can be used to fill the pericardial cavity with contrast material or carbon dioxide for roentgenographic documentation of the placement of the catheter. We have usually avoided injecting contrast material into the pericardial cavity to prevent any inflammatory response the dye may have. The only instruments needed have been what is usually available in a cut down tray or a minor surgical set.

Similar approach has been used for implantation of epicardial pacemaker also under local anesthesia. When transvenous pacing has been unsuccessful with temporary or permanent electrodes, the risk of general anesthesia in elderly patients with heart block is high. Such patients may be taken to the operating room and under local anesthesia, the inferior wall of the ventricle or the apex can be exposed through a 3- or 4-cm opening in the diaphragm. A narrow malleable retractor is used to keep the left lobe of the liver and the edge of the diaphragm depressed. Any one of the several epicardial electrodes available on the market may be implanted by the "screw-in" or "suture-on" method, with the generator implanted in the subcutaneous space in the upper abdomen. Unipolar as well as bipolar electrodes have been implanted through this approach under local anesthesia. The pericardial cavity may be drained with a catheter to the outside or allowed to drain into the peritoneal cavity. Six patients have been operated on during the past three years for permanent pacemaker implantation. A seventh patient had a permanent pacemaker implanted in the intensive care unit using all sterile techniques, since she was too ill to be transported at that time to the operating room *(Figure 4)*. Multiple attempts at transvenous pacing were unsuccessful in this case.

Comments

Pericardial effusion and cardiac tamponade have interested investigators since the late 19th century. Our knowledge of the extension of abdominal viscera through the retrosternal space into the mediastinum in patients with Morgagni hernia, initially described in 1760, has been helpful in attempting this approach to the pericardial cavity. Larrey, surgeon general for Napoleon, described this approach into the pericardial cavity in 1828.[2] The hemodynamic effects of fluid into the pericardial cavity and the improvement in cardiac performance by raising the central venous pressure have been discussed in detail by several authors.[1, 7] Reports by Stein and associates[8] and several others[1, 7, 9] have described the pathophysiology, clinical diagnosis, and special studies helpful in confirming the diagnosis. Ra-

Figure 4. Portable chest film on a patient who had postoperative myocardial infarction and A-V dissociation. Transvenous pacing was unsuccessful. Epicardial seven-in pacemaker implanted under local anesthesia.

dioisotope scanning, selective coronary arteriogram, and echocardiography are some of the recent special studies available. Central venous pressure and Swan-Ganz catheter are more valuable in patients with cardiac tamponade as a measure of the response to fluid therapy and drainage procedures than as a specific diagnostic criteria. Despite the several studies to confirm the diagnosis of pericardial tamponade, infrequently tamponade of the heart may be due to extensive solid tumor infiltration which cannot be ruled out with a negative pericardiocentesis alone. By the method described here, digital exploration of the pericardial cavity can be carried out after a small window is created in the pericardium with a hemostat. An infraxiphoid approach has been used in four patients without any complication directly related to the procedure or the technique. Small pneumoperitoneum or drainage of some fluid into the peritoneal cavity may be encountered without adverse effects. The catheter in the pericardial cavity is left in place for three to five days. Upon removal of the catheter, the tube tract is allowed to drain into a sterile dressing applied over the incision, rather than using water and air-tight dressing or sutures to approximate the skin edges. The method advocated here should not be substituted for thoracotomy, particularly in patients with knife and bullet wounds of the heart. Direct visualization of the diaphragm or pericardium was not attempted since these procedures were carried out in the intensive care unit. Performance of these procedures in the operating room, however, should allow digital as well as visual evaluation of the procedure, including biopsy of the pericardium, if indicated.

References

1. Spodick, D. H.: Acute cardiac tamponade: Pathologic physiology, diagnosis and management. *Progr. Cardiovasc. Dis.* 10:64, 1967.
2. Blalock, A. and Ravitch, M. M.: Consideration of nonoperative treatment of cardiac tamponade resulting from wounds of the heart. *Surgery* 52:330, 1962.
3. Thomas, T. V.: Management of cardiac and intrathoracic great vessel injuries. *Surg. Gynec. Obstet.* 125:997, 1967.
4. Thomas, T. V.: Emergency evacuation of acute pericardial tamponade. *Ann. Thorac. Surg.* 10:566, 1970.
5. Thomas, T. V.: Pericardial effusion, changes in postirradiation cardiac silhouette. *J. Kansas Med. Soc.* 73:47, 1972.
6. Thomas, T. V.: Subcostosternal diaphragmatic hernia. *J. Thorac. Cardiovasc. Surg.* 63:279, 1972.
7. Metcalfe, J. *et al.:* Studies in experimental pericardial tamponade. Effects on intravascular pressure and cardiac output. *Circulation* 5:518, 1952.
8. Stein, L.; Stubin, H. and Weil, M. H.: Recognition and management of pericardial tamponade. *JAMA* 225:503, 1970.
9. Steinberg, I.: Roentgenography of pericardial disease. *Am. J. Cardiol.* 7:33, 1961.

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Multiple Malignancies

Presentation of Surgical Cases

W. G. CAUBLE, M.D., ***Wichita***

MULTIPLE PRIMARY CARCINOMAS in the surgical patient arouse considerable interest. The first questions that come to mind are: (1) whether the host's resistance has broken down; and (2) why do patients develop more than one cancer; why do different systems of the body develop cancer, or why does one system develop more than one cancer? The answers to these problems are not yet forthcoming.

Multiple cancers are moderately rare, occurring in approximately 3 per cent of cancer patients; some autopsy studies reveal percentages as high as 7.8%. In reviewing cases encountered in our practice over the last few years, there have been some very interesting ones which will be the basis of this report. Some of the recent literature concerning multiple carcinomas will also be reviewed.

Cleary *et al.*[1] suggest that, in studying multiple primary tumors, some criteria should be established to determine truly independent neoplasms. They reported 30 patients with three or more primary cancers. In 1932, Warren and Gates[2] proposed that each suspected primary tumor must be: (1) malignant; (2) distinct; and (3) cannot be the result of metastasis of another tumor. Cleary and his group have shown that the most frequent site of the first primary cancer in men was colorectal tissue, whereas, for women it was breast tissue. The average interval between diagnosis of the primary and secondary cancer was 6.7 years for men and 8 years for women. The average interval between diagnosis of the second and third cancer was 2.6 years for men and 3.6 years for women. The study pointed out that the presence of a single malignant tumor does not offer immunity against the development of a second, third, or additional malignant lesions in the same patient. In discussing multiple primary breast cancer, it was demonstrated that primary cancer of the breast occurs in the breast tissue, while metastatic lesions occur in the fat tissue surrounding the breast parenchyma; and that metastatic cancers are often multiple, while primary lesions are usually single.

Dellon *et al.*[3] reported 42 patients who had from two to four multiple primary malignant neoplasms on which they performed extensive immunological studies. It was thought that if multiple primary malignant tumors develop because of depressed cellular immunity, it would be possible to establish a genetic basis for this occurrence, since genetic control of the immune response in mice has been linked to the histocompatibility locus. Thus, to evaluate this hypothesis, cellular immunity and histocompatibiilty antigens were studied in patients with multiple primary malignant neoplasms. The patients in that group ranged in age from 35 to 94 years. Cellular immunity and homologous leucocytic antibody (HLA) antigen typing studies were done. The results revealed that the cell levels in patients with multiple primary malignant neoplasms were depressed only in those patients who either had tumors present or had received previous radiation therapy. HLA antigen frequencies were not significantly different from the noncancer control population.

Silverman and O'Neil[4] reported 413 patients with primary carcinomas of the ovary. Of these, 37 (8.9%) had multiple primary tumors. The most common second primary tumors were of the endometrium and breast. There was no evidence that race, parity, or treatment of the original cancer influenced the incidence of multiple tumor growth.

Table I represents a study of 29 cases from our private surgical practice. While the list is not extensive, some interesting cases have been followed.

Four of these cases show that two separate neoplasms were found simultaneously, at the original examination. The longest interval between the first and second tumors was 28 years. The average time interval was approximately 5 years, which is similar to that reported in larger series. The average age of the patient, at the time of discovery of the first cancer, was 65 years. The series includes 22 women and 7 men. Of especial interest are: Case # 1, four separate cancers involving two different systems in a male patient; Case # 14, carcinoma of a sebaceous cyst, which is rare; Case # 12, cancer of cervix, treated with radium and x-ray; patient then developed carcinoma in the anterior wall at the cervical level.

Presented at the annual meeting of the Kansas Chapter, American College of Surgeons, Wichita, November 23, 1975.

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TABLE I

Case No. & Sex	*First Primary Tumor*	*Age*	*Post Treatment Interval*	*Secondary Primary Tumor*	*Post Treatment Interval*	*Third Primary Tumor*	*Post Treatment Interval*	*Fourth Primary Tumor*
1. M	Carcinoma stomach	60	4 years	Carcinoma cecum	2½ months	Carcinoma rectum	9 years	Carcinoma larynx
2. F	Carcinoma left breast	57	5 years	Carcinoma stomach	Found at same time	Carcinoma right breast		
3. M	Malignant polyp sigmoid colon	59	13 years	Carcinoma right colon				
4. M	Carcinoma transverse colon	65	1 year	Basal cell carcinoma right leg				
5. F	Carcinoma right colon	83	Found at same time	Carcinoma left ovary				
6. F	Carcinoma transverse colon	55	Found at same time	Carcinoma left breast				
7. M	Carcinoma recto sigmoid	71	3 years	Carcinoma right colon				
8. F	Low grade carcinoma rectum	82	10 months	Carcinoma right breast	Found at same time	Lymphosarcoma right axilla node		
9. F	Carcinoma right breast	69	5 months	Carcinoma left breast				
10. F	Carcinoma right breast	62	2 years	Carcinoma left breast				
11. F	Carcinoma right breast	76	2 years	Carcinoma left breast	2 years	Leukoplakia vulva		
12. F	Squamous cell carcinoma cervix grade II	55	8 years	Carcinoma rectum				
13. F	Carcinoma cervix	45	2 years	Carcinoma right breast				
14. F	Carcinoma sebaceous cyst scalp	66	12 years	Carcinoma right breast				
15. F	Carcinoma right breast	86	3 years	Squamous cell carcinoma left temple area				
16. F	Carcinoma cecum	70	5 months	Basal cell carcinoma right temple area				
17. F	Large basal cell carcinoma forehead and below left eye	66	3 years	Basal cell carcinoma right groin area	1 year	Basal cell carcinoma left neck area		
18. F	Carcinoma right breast	73	7 days	Basal cell carcinoma nose				
19. F	Duct cell carcinoma right breast	84	Same time	Basal cell carcinoma nose				
20. F	Carcinoma rectum	59	23 years	Carcinoma right breast				
21. F	Carcinoma cervix	33	28 years	Multiple myeloma				

TABLE I *Continued*

Case No. & Sex	*First Primary Tumor*	*Age*	*Post Treatment Interval*	*Secondary Primary Tumor*	*Post Treatment Interval*	*Third Primary Tumor*	*Post Treatment Internal*	*Fourth Primary Tumor*
22. F	Carcinoma right breast	45	6 years	Carcinoma sigmoid				
23. M	Carcinoma colon	64	1 year	Basal cell carcinoma leg				
24. F	Carcinoma rectum	65	3 years	Basal cell carcinoma left arm				
25. M	Carcinoma colon	55	16 years	Basal cell carcinoma back of scalp				
26. F	Duct cell carcinoma right breast	69	Same time	Basal cell epithelioma right thigh				
27. M	Carcinoma prostate	66	7 months	Carcinoma sigmoid				
28. F	Carcinoma sigmoid	81	10 years	Carcinoma left breast				
29. F	Carcinoma left breast	67	10 years	Carcinoma right breast				

Summary

Recent literature concerning multiple carcinomas was discussed, with particular emphasis on immunology relationship to multiple carcinomas. A list of 29 cases of multiple cancers has been reported and pertinent findings discussed. It is important and fundamental to point out that patients with a history of cancer be given a careful followup study, and that new symptoms not be automatically regarded as caused by metastasis of the first cancer. It should be kept in mind that other new cancers may develop.

References

1. Cleary, J. B.; Kazarian, K. K. and Mersheimer, W. L.: Multiple primary cancer. *Am. J. Surg.* 129:686-689, 1975.
2. Warren, S. and Gates, O.: Multiple primary malignant tumors: a survey of the literature and statistical study. *Am. J. Cancer* 16:1358, 1932.
3. Dellon, A. L. *et al.:* Multiple primary malignant neoplasms. *Arch. Surg.* 110:156-160, 1975.
4. Silverman, B. B. and O'Neil, R. T.: Multiple malignant tumors associated with primary carcinoma of the ovary. *Surg. Gynecol. Obstet.* 134:244-247, 1972.

DIABETES MELLITUS RESEARCH GRANTS

The National Institute of Arthritis, Metabolic and Digestive Diseases of the National Institute of Health has invited applications for research grants in the field of Diabetes Mellitus and related endocrine and metabolic diseases.

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Antiarrhythmic Drugs

The Use of Quinidine in Atrial Fibrillation

ARMANDO P. SIMON, M.D., *Wichita*

TREATMENT of arrhythmias has changed remarkably in the last decade, not only with the introduction of new antiarrhythmic drugs, but with the use of electric cardioversion and the utilization of implantable pacemakers. Nevertheless, there is a continuing and important need for some of the older, more traditional drugs, particularly quinidine.

The choice of antiarrhythmic drugs depends on at least four important factors: (1) precise type of arrhythmia; (2) underlying cardiac disorder; (3) specific cause of the arrhythmia; and (4) the preferred route of administration.

Cardiac arrhythmias are frequent problems that physicians, regardless of specialty, face daily. It becomes necessary to promptly detect and identify these arrhythmias. They may occur in patients who have no other evidence of heart disease, but are more frequently seen in patients with cardiovascular diseases. The diagnosis of many arrhythmias may be the first evidence of an underlying cardiac abnormality, and this disorder can often be diagnosed clinically or by electrocardiography.

It is important to understand that the hemodynamic changes caused by arrhythmias result in a reduction of cardiovascular function and efficiency. Sometimes, these arrhythmias affect not only the heart, but other important organs, such as the brain, and are manifested by dizziness or syncope. Such symptoms occur mainly in elderly patients with poor cerebral circulation. It is important to determine the cause of the arrhythmia. There are several possible etiological factors, including cardiac strain, hypertension, valvular heart disease, congenital heart disease, coronary artery disease, and others.

The incidence of arrhythmias depends upon the group investigated. Three-fourths of the cases of atrial flutter appear in patients over age 40. Atrioventricular block, atrial flutter, and ventricular tachycardia are seen most frequently in patients with coronary disease above age 50.

In a previous study[1] of 1,000 consecutive unselected hospitalized, elderly (average age 78) patients, it was found that 61 per cent had arrhythmias. Of these, 10 per cent had atrial fibrillation. The mechanism of atrial fibrillation is uncertain: it has been considered to be either a form of circus movement or of rapid discharges from one or more ectopic foci.[2] Atrial fibrillation is common in most organic diseases, particularly mitral stenosis, mitral insufficiency, coronary artery disease, and thyrotoxicosis. It also occurs in patients without evidence of heart disease. We have seen several patients who suffered episodes of paroxysmal atrial fibrillation during episodes of acute alcohol intoxication, but they had no evidence of organic heart disease. Atrial fibrillation is characterized by extremely rapid, irregular atrial electrical impulses manifested clinically by a completely irregular rhythm which, in the past, had been called "delirium cordis," or "rebellious palpitation." Several groups of investigators have demonstrated a decrease in cardiac output during atrial fibrillation, reducing the rate of blood flow by as much as 20 to 68 per cent.[3]

Although it is true that arrhythmias were recognized prior to the introduction of electrocardiography, the new science has given impetus to the classification of cardiac arrhythmias. The electrocardiogram is the most important informative method of studying clinical disorders of cardiac rhythm. Although the diagnosis of an arrhythmia can be made clinically, it can be defined precisely only by electrocardiography.

Quinidine is an antiarrhythmic drug which has been used for many years. Cinchona bark contains a mixture of more than 20 alkaloids, the most important of these being quinine and quinidine. Quinidine is an optical isomer of quinine.[4] It was first described by Van Heyningen, in 1848, and was prepared and given its name by Pasteur, in 1853. Jean Baptist de Seneca, in 1749, was the first physician to employ the drug successfully.[4] Wenckebach, in 1914, verified the action of quinine alkaloids in arrhythmias, when one of his patients called his attention to the fact that the palpitation disappeared when he took quinine. Lewis,[5] in 1921, continued to study the effects of quinine upon arrhythmias, and because of him, the use of the drug was markedly extended.

Quinidine decreases conduction within the atrium and increases the refractory period of the atrium.[6] In addition, it decreases excitability of the ventricle and de-

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creases the conduction time in cardiac muscle. Some researchers assume that quinidine fosters ventricular arrhythmia which results in sudden death. In experiments with dogs, quinidine failed to provoke ventricular tachycardia or extrasystoles even when high blood levels of quinidine were demonstrated.[7] The threshold of myocardium to electrical stimuli is increased by quinidine. Although therapy with quinidine has been recommended since 1918, there is still some controversy regarding its toxic effects. There is literature to the effect that the mortality rate among patients with chronic atrial arrhythmias, who are on a regimen of quinidine, is as high as 4 per cent,[8, 9] while others report a much lower mortality. Yount,[3] who employs quinidine in clinical auricular fibrillation, believes that the dangers of the drug have been overemphasized.

It is known that most drugs may produce harmful side effects (aspirin produces 5% of the complications in patients admitted to hospitals[10]). Some 1,500,000 patients were admitted to hospitals in the United States during 1960s, as a result of serious reactions to one or more drugs. Some of these developed illnesses such as aplastic anemia or hypertensive crisis.[10] Therefore, although quinidine is a relatively safe drug, it is not an exception, and can produce undesirable side effects.

In a previously reported study of the use of quinidine in arrhythmias due to atrial fibrillation,[1] not a single case of serious complications developed, and there was no death attributed directly to the drug itself.

Side effects such as nausea, vomiting, and diarrhea occurred in 5 per cent of the patients and a few had skin rash and fever, but all these problems were solved promptly. With high doses of quinidine there was prolongation of the QT interval or depression of the ST segment, but these changes were not sufficient enough to discontinue the drug.

The opinion of other researchers,[11] that atrial fibrillation due to arteriosclerotic heart disease responds better to quinidine than atrial fibrillation associated with rheumatic heart disease—or thyrotoxicosis—is shared by the author. Patients with rheumatic heart disease need higher doses of quinidine for conversion to sinus rhythm than do those with arteriosclerotic heart disease.

Quinidine is effective in converting paroxysmal tachycardia of supraventricular origin, paroxysmal atrial fibrillation or flutter, and some cases of atrial fibrillation of long duration. The opinion of Bellet,[12] that quinidine is the most dependable drug for the conversion of atrial fibrillation to normal rhythm, is also shared by this author.

Quinidine can be administered orally, intramuscularly, or intravenously. With the exception of patients who are unable to take oral medication or have problems with absorption, quinidine sulfate is administered orally. The intramuscular route, therefore, would seem to be valuable chiefly where quinidine cannot be given orally. In this study, quinidine has not been administered intravenously because of severe side effects.

The dosage of quinidine used in all patients ranged from 1.20 to 2.40/gm/24 hours. The method of administration varies. The therapy is initiated with 200 mg quinidine sulfate orally every 6 or 8 hours. If the arrhythmia persists, the dose is increased to 400 mg/8 hrs. on the second or third day (every 6 hours if it dose not respond). When atrial fibrillation persists for more than four days, the 400-mg dose is given every 4 hours. We refrain from administering quinidine every 2 hours because of toxic effects in patients given the drug so frequently. Whenever the doses of quinidine are increased to more than 1.60 gm/24 hours, the patient is monitored in the coronary care unit. Patients converted to sinus rhythm should be placed on quinidine regimen as prophylatic treatment. Such patients should be followed regularly. A frequent dose may be 200 mg/8 hrs., but this is varied according to response.

All of our patients with atrial fibrillation due to acute alcoholism responded very well to quinidine. The doses need not be high. Although quinidine is efficacious in most of the atrial arrhythmias and in some ventricular arrhythmias, it is our impression that the drug has remarkably beneficial effects particularly in atrial fibrillation. However, it is important to point out that if the patient has suffered from atrial fibrillation for many years, it is difficult to convert it to sinus rhythm.

One of the controversies concerning the use of quinidine is its use in atrial fibrillation due to congestive heart failure. In these cases, an attempt is made to treat the congestive failure first, because arrhythmias may disappear with the use of digitalis and diuretics. On the other hand, serum levels of quinidine persist for longer periods of time during congestive failure due to a diminished glomerular filtration rate.[12] If arrhythmia persists, the presence of congestive failure is not a contraindication to the administration of quinidine.

Not all patients respond to the same dose of quinidine. Quinidine is degraded in the liver and is excreted by kidneys. There are differences in the rate of absorption and the rate of excretion. Plasma quinidine levels do not give precise therapeutic indices.[13] This lack of correlation of plasma levels with cardiac effects has been documented in our previous study.

According to some researchers, quinidine converts most episodes of atrial fibrillation to sinus rhythm when blood levels of quinidine reach about 6-8 mg/L.[5] How-

(Continued on page 22)

Patient-Drug Monitoring

Laboratory Studies for Psychotropic Drugs

ROBERTA M. GILBERT, M.D. *and*
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THE PROBLEM of whether patients receiving long-term psychotropic drugs should be monitored with routine laboratory studies often arises in clinical practice. If one decides to monitor all patients on drugs routinely, the problem is then, which studies to undertake and how often they should be done.

The literature fails to yield a consensus on the subject. For example, some authors[1-9] conclude that laboratory tests are necessary at varying intervals. Other authors,[10-16] however, conclude that they are unnecessary or unhelpful. To further complicate matters, two authors[17-18] recommend studies only in the initial months of treatment.

Drug package inserts are not helpful for setting policies regarding the necessity or frequency of routine laboratory studies. Although some companies recommend that patients be followed with "periodic" studies, they rarely specify which studies or how often they should be performed.

The authors contacted the medical departments of drug manufacturers for current and comprehensive data on untoward reactions and specific recommendations, other than those found in the package inserts.

Method

Sixteen companies were polled regarding 20 drugs. They were asked whether routine periodic laboratory determinations were recommended for patients being treated with the various drugs. If laboratory studies were recommended, the companies were asked to be specific regarding the studies and at what intervals these were undertaken.

Results

Five companies responded with specific positive recommendations for routine studies regarding six drugs. They are listed in *Table I.*

Although not under the heading of laboratory studies, it is of interest that McNeil Laboratories recommended that the patients on a regimen of Haldol receive yearly eye examinations for reticular granules and lens opacities.

Address reprint requests to Dr. Gilbert, 4121 West 83rd St., Suite 206, Prairie Village, KS 66208.

In general, recommendations received from the companies in direct communication were more stringent than those printed in package inserts. While many companies do not make any mention in the package insert of routine laboratory monitoring, when polled they often recommended that this be done.

Five companies gave specific negative recommendations; that is, they advised that routine laboratory work was unnecessary for nine drugs *(Table II).*

Merck, Sharp, and Dohme recommended that for patients on Triavil, Cogentin, Elavil, and Vivactil routine testing was unnecessary unless the patient was presenting side effects, in which case liver function and blood studies, including bone marrow, should be done as indicated.

Between these extremes were seven companies representing 13 drugs. These companies either made no recommendations or their recommendations were too vague to be helpful in establishing policy. Their favorite phrase was "periodic blood counts and hepatic and

TABLE I

SPECIFIC POSITIVE RECOMMENDATIONS OF DRUG COMPANIES

Company	*Drug*	*Recommendation*
Lakeside	Norpramin	CBC, platelet exam, SGPT, phosphatase, EKG, every 6 mos.
U. S. V.	Pertofrane	CBC, bilirubin, alkaline phosphatase, SGOT, every 6 mos.
Parke-Davis	Dilantin	CBC weekly for 1 mo.; monthly for 3 mos.; and then every 3-6 mos.
Ayerst	Mysoline	CBC, SMA-12 every 6 mos.
Ayerst	Antabuse	"Routine studies"; beginning of treatment, in 10-14 days and then every 6 mos.
McNeil	Haldol	Monitor hematologic, hepatic and renal systems once or twice a year regardless of drug intake; more frequently in systems with history of disease.

TABLE II

COMPANIES RECOMMENDING NO LAB WORK

Company	*Drug*
Sandoz	Mellaril
Sandoz	Serentil
Lederle	Artane
Pfizer	Vistaril
Dow	Quide
Merck, Sharp, Dohme	Cogentin
Merck, Sharp, Dohme	Elavil
Merck, Sharp, Dohme	Vivactil
Merck, Sharp, Dohme	Triavil

renal studies are recommended." They did not specify the studies, define blood counts, or specify time intervals between studies *(Table III)*.

Squibb recommended prothrombin times for patients on regimen of Noctec whenever it is added to or removed from the regimen of patients on anticoagulant therapy.

Six companies representing 13 drugs recommended alert clinical observation of patients, with appropriate laboratory studies whenever clinical status suggests them.

Discussion

In general, the study did not produce a clear mandate from the manufacturers concerning the rationale for or desirability of periodic laboratory studies for patients receiving psychiatric drugs.

Since neither research studies nor experience which has accumulated in medical departments of drug manufacturers provides clear indication for routine studies in such patients, a rationale for followup must be based on the nature of the toxicity of the drugs. Hematopoietic system and the liver are involved in serious reactions most frequently.

Experience with drug induced agranulocytosis indicates that it occurs abruptly and develops rapidly. Plum found the duration of the illness in fatal cases to be three to nine days with few exceptions.[16] Presenting clinical symptoms are pallor, extreme weakness, high fever and, rather late in the course, sore throat, abscess, or other overwhelming infection. Only by a rare fortuitous coincidence would a biannual laboratory study detect its onset. Even monthly blood counts might easily miss its occurrence.

In the case of hepatotoxicity, the course is less fulminant but can be fatal. Klatskin[18] states that hepatotoxic reactions to these drugs are seen most commonly between the second and fifth weeks of drug administration, and although jaundice and dark urine usually occur in a few days, liver damage may occur in the absence of jaundice. He gives a detailed discussion of the clinical literature of many of the psychotropic drugs causing hepatotoxicity. His conclusion concerning prophylaxis would seem to be thoroughly justified. Patients should be watched carefully for early signs of reaction. If fever, rash or pruritis occur, the medication should be stopped immediately, at least until other possible causes can be excluded, the alkaline phosphatase and transaminase should be tested at weekly intervals during the first two months—the period of greatest risk.[17]

The authors conclude, therefore, that with the exception of weekly transaminase and alkaline phosphatase

TABLE III

COMPANIES MAKING LESS SPECIFIC RECOMMENDATIONS

Company	*Drug*	*Recommendations*
Wyeth	Serax	Periodic blood counts and liver function tests.
Wallace	Miltown	Watch for excessive accumulation.
Smith, Kline, French	Dexedrine Thorazine Stelazine	Medical opinion divided.
Roche	Librium Valium Taractan Noludar	Periodic blood counts, hepatic and renal studies.
Roerig	Navane	Periodic blood counts and SGOT.
Squibb	Vesprin	Routine blood counts.
Squibb	Prolixin Enanthate	Periodic checks of hepatic and renal functions and blood counts, BUN, SGPT.
Geigy	Tofranil	No mention of routine studies.

determinations in the first eight weeks of treatment, laboratory studies as a precaution against serious side effects of psychiatric drugs are not helpful on a routine ongoing basis.

The laboratory must be considered an important and useful means of studying the patient's clinical status when warranted by his clinical condition. But it would seem that both an informed patient and an informed, always-alert physician will continue to be of paramount importance if serious side effects of psychotropic drugs are to be avoided.

References

1. Craddock, W. L.: Toxic effects of chlorpromazine. *U. S. Armed Forces Med. J.* 7 (12):1926-1940, 1956.
2. Dickes, R. *et al.:* Serial liver-function and blood studies in patients receiving chlorpromazine. *New Eng. J. Med.* 256 (1):1-7, 1974.
3. Dundee, J. W.: Chlorpromazine as an adjuvant in the relief of chronic pain. *Brit. J. Anaesth.* 29 (1):28-34, 1957.
4. Slocum, Y. K.: Serum transaminase tests for liver function on out-patients in follow-up clinic. *Amer. J. Psychiat.* 118 (1):75-76, 1961.
5. Shay, H. and Siplet, H.: Study of chlorpromazine jaundice, its mechanism and prevention: special reference to serum alkaline phosphatase and glutamic oxalacetic transaminase. *Gastroenterology* 32 (4):571-591, 1957.
6. Jenkins, S. B.: The use and abuse of phenothiazines in treatment of acute psychoses. *J. Nat. Med. Asso.* 55 (6):515-519, 1963.
7. Von Mendelssohn, F.: Use and abuse of psychoeffective drugs. *Med. Ann. DC* 34 (11):540-544, 1965.
8. Denver, H. C. B. and Travis, J. H.: Chlorpromazine in the treatment of mental illness. V. Administrative problems. *Psychiat. Quart.* 32 (3):538-545, 1958.
9. Caffey, E. M. Jr. and Klett, C. J.: Side effects and laboratory findings during combined drug therapy of chronic schizophrenics. *Dis. Nerv. Syst.* 22 (7):370-375, 1961.
10. Cheongvee, E. M. *et al.:* Agranulocytosis and jaundice associated with chlorpromazine. *Brit. J. Clin. Pract.* 21 (2): 95-96, 1967.
11. Ayd, F J., Jr.: Phenothiazine-induced agranulocytosis: The "at risk patient." *Med. Counterpt.* 2 (4):5206, 1970.
12. Symposium on adverse reactions to psychotropic drugs; discussion of extrapyramidal side effects. *Psychopharmacol. Serv. Cent. Bull.* 3 (2):3-19, 1965.
13. Hollister, L. E.: Allergy to chlorpromazine manifested by jaundice. *Amer. J. Med.* 23 (6):870-879, 1957.
14. Voegele, G. E. and Dietze, H. J.: Psychotropic drugs in general medicine. *Delaware Med. J.* 37 (5):106-113, 1965.
15. Hollister, L. E. *et al.:* Abnormal symptoms, signs, and laboratory tests during treatment with phenothiazine derivatives. *Clin. Pharmacol. Ther.*
16. Kinross-Wright, V. and Moyer, J. G.: Chlorpromazine and hepatic function. *AMA Arch. Neurol. Psychiat.* 76 (6): 675-680, 1956.
17. Wintrobe: *Clinical Hematology.* Philadelphia, Lea & Febiger, 1968, p.1220.
18. Klatskin, Gerald: *Diseases of the Liver.* Philadelphia, Lippincott, 1969, Chapter 14.

Antirrhythmic Drugs

(Continued from page 19)

ever, like digitalis and other drugs, there are individual variations in therapeutic blood levels. In general, it has been accepted that successful conversion occurs at mean plasma concentrations of 5.7 mg/L.[14-16]

It can be suggested that it is not necessary to be overly concerned about blood levels in quinidine during treatment. The most important aspect of the treatment of arrhythmias with quinidine is to follow the patient closely and increase the dose according to the clinical and electrocardiographic responses.

References

1. Simon, A. P.: Quinidine in elderly patients. *Am. Physician.* 9:127, 1974.
2. Friedberg, Charles K.: *Diseases of the Heart,* ed. 3. Philadelphia, W. B. Saunders Co., 1966.
3. Yount, E. H.; Rosenblum, M.; and McMillan, R. L.: Use of quinidine in treatment of chronic auricular fibrillation. *AMA Arch. Intern. Med.* 89:63, 1952.
4. Goodman, Louis S. and Gilman, Alfred, (eds.): *The Pharmacological Basis of Therapeutics,* ed. 3. New York, Macmillan, 1965.
5. Lewis, T.: The value of quinidine in cases of auricular fibrillation and method of studying the clinical reaction. *Proceedings of the Institute of Medicine.* Chicago, 4:85-96, 1922-1923.
5. Lewis, T.: The actions of atropine and quinidine in fibrillation of the auricles: Clinical and experimental studies. *Am. J. Sci.* 163:781, 1922.
6. Josephson, M. D. *et al.:* The electrophysiological effects of intramuscular quinidine on the atrioventricular conduction system in man. *Am. Heart J.* 87:55-64, 1974.
7. Dick, H. L. *et al.:* Electrocardiographic evaluation studies on quinidine induced changes of myocardial conduction. *Am. Heart J.* 56:396-404, 1958.
8. Thompson, G. W.: Quinidine as cause of sudden death. *Circulation* 14:757-765, 1956.
9. Selzer, A. and Wray, H. W.: Quinidine syncope: Paroxysmal ventricular fibrillation occurring during treatment of chronic atrial arrythmias. *Circulation* 30:17-26, 1964.
10. Martin, Eric W.: *Hazards of Medication.* Philadelphia, J. B. Lippincott Co., 1972.
11. Bellet, Samuel: *Clinical Disorders of the Heart Beat,* ed. 2. Philadelphia, Lea and Febiger, 1963.
12. Bellett, S.; Roman, L. R. and Boza, A.: Relation between serum quinidine levels and renal function. *Am. J. Cardiol.* 27:368-371, 1971.
13. Sokolow, M. and Ball, R. E.: Factors influencing conversion of chronic atrial fibrillation with special reference to serum quinidine concentration. *Circulation* 14:568-583, 1956.
14. Stock, J. P.: *Diagnosis and Treatment of Cardiac Arrythmias,* ed. 2. New York, Appleton, 1970.

Cancer Management

A Physician Survey

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MID-AMERICA Cancer Center Program, Committee on Cancer Control, decided at its first meeting to obtain information regarding physicians who treat cancer patients. This information would aid the Committee in designing regional programs to improve patient care by developing better communications, by strengthening resources, and by defining areas of need. The questionnaire was mailed to all physicians in Kansas and metropolitan Kansas City, Missouri. It was hoped that it would generate a broad response which would yield reliable information as to the extent of physician involvement in the management of cancer, special interests, training in oncology, availability of facilities, referral patterns, type of postgraduate cancer education desired, and the willingness of physicians to participate in cancer control activities. After the first mailing, the questionnaire was modified slightly to clarify a few questions.

Results

Questionnaires were distributed to 3207 MDs and DOs in Kansas and the five-county Kansas City, Missouri area, excluding interns, residents, and fellows. The metropolitan Kansas City area has a population of 1,361,000, cared for by 1600 MDs and DOs. Wichita is the largest city in the state of Kansas, with 350,000 inhabitants served by 435 physicians. The remaining 1,300,000 persons live primarily in rural or semi-rural areas served by 1165 MDs and DOs. Three separate mailings generated a 56 per cent response from active physicians. The response among the various specialties was evenly distributed *(Table I)*. Especially gratifying was the large number of family practitioners who responded. The majority of the physicians (74%) indicated they were involved in the care of cancer patients *(Table II)*. Eighteen per cent of these restrict themselves to diagnosing the disease; 23 per cent specified that they both diagnosed and treated the cancer patient. The remainder did not specify. The majority (45%) took care of 10 or fewer patients annually; 24 per cent had 11-20 cases; 14 per cent saw 21-50 cases; and 17 per cent were involved with more than 50 patients. Of interest is the finding that one third of the surgeons treat over 50 patients per year, which may indicate a trend toward specialization and the existence of established referral patterns.

Forty-two per cent of the physicians diagnosing or treating cancer specified some form of cancer education, and 53 per cent of those received this education during their residency training *(Table III)*. Only 13 per cent had a fellowship or training in a cancer treatment center. The importance of postgraduate training is demonstrated in that no fewer than 20 per cent had received their cancer training in this manner. In a large majority (74%), the training had been received more than ten years ago.

Most physicians (89%) felt there is inadequate accessibility to support resources in rural Kansas communities. The questionnaires in the second mailing were amended to define access as within a 50-mile radius, and 97 per cent of the 409 Kansas physicians responding to this second mailing answered in the affirmative to the question, "If you do treat malignant disease, do you have access to adequate resources?" Only 3 per cent stated that they did not have ready access to a radiotherapist or platelet transfusions.

Of the specialists mentioned by name, there are no clear patterns except that physicians throughout the area clearly utilize the physicians specializing in the treatment of cancer. By specialty referred to they are internists (28%), hematologists-oncologists (27%), surgeons (18%), radiotherapists (12%) and others (15%).

Among the hospitals referred to, the University of Kansas Medical Center was mentioned by 60 per cent of the Kansas and Missouri physicians. Two major out of state institutions, the Mayo Clinic, and M. D. Anderson Hospital in Houston, were mentioned 2 and 5 percent respectively, and represented referrals mainly for patients in the higher income category.

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This study was made possible through assistance from the Kansas Regional Medical Program, and the Kansas Division, American Cancer Society.

TABLE I

RESPONDERS BY TYPE OF PRACTICE

Practice	*Total Physicians*	*Number Responding*	*% Responding*
Administrative medicine	14	7	50
Anesthesiology	119	43	36
Dermatology	42	26	62
Emergency medicine	16	11	69
Family practice	897	514	57
Preventive medicine	2	0	0
Geriatrics	2	1	50
Industrial medicine	34	20	59
Internal medicine	371	211	57
Allergy	30	15	50
Cardiovascular disease	52	30	58
Clinical pharmacology	2	2	100
Endocrinology	2	2	100
Gastroenterology	21	13	62
Hematology-oncology	14	13	93
Nephrology	8	2	25
Rheumatology	4	1	25
Other	70	30	43
Neurology	28	19	68
Nuclear medicine	6	4	67
Obstetrics-gynecology	173	103	60
Ophthalmology	109	57	52
Otorhinolaryngology	64	41	64
Pathology	102	52	51
Pediatrics	149	103	69
Physical medicine	5	3	60
Psychiatry	215	111	52
Public health	11	7	63
Radiology	141	78	55
Surgery			
Cardiothoracic	5	3	60
Colon & rectal	7	2	29
General	297	175	59
Neurological	23	17	74
Orthopedic	108	57	53
Pediatric	4	2	50
Plastic	24	10	42
Thoracic	34	11	32
Urological	1	1	100
Unknown	1	0	0
TOTAL	3207	1797	56

Nearly a half (655) of all physicians now diagnosing or treating cancer expressed a desire to continue their postgraduate training. Fifty-three per cent of those who have already had some form of postgraduate education in cancer indicated that they want to continue, while 47 per cent of those who have not had any specialized training would not take advantage of an opportunity to do so. Surprisingly, no fewer than 41 per cent of physicians prefer one or two days a month at a cancer treatment center. The next most popular choice (27%) was a concentrated postgraduate course with or without hospital rounds lasting one week. Thirteen per cent preferred one week to a month of formal education at a cancer center.

Those who specified other forms of education fell into two groups: (1) bringing education into the physician's office via audio/visual tapes, self-assessment examinations, and updated treatment protocols; (2) the second group is interested in traveling tumor conferences at their hospitals and regional symposia conduct-

TABLE II

PROPORTION OF THE RESPONDERS INDICATING THAT THEY PARTICIPATE IN CARE OF CANCER PATIENTS

Practice	*Physicians Responding*	*Physicians Caring for Cancer Patients*	*% of Responders Caring for Cancer Patients*
Administrative medicine	7	2	29
Anesthesiology	43	3	7
Dermatology	26	21	81
Emergency medicine	11	8	73
Family practice	514	433	84
General preventive medicine	0	0	0
Geriatrics	1	0	0
Industrial medicine	20	9	45
Internal medicine	319	260	82
Allergy	15	6	40
Cardiovascular disease	30	11	37
Clinical pharmacology	2	2	100
Endocrinology	2	2	100
Gastroenterology	13	12	92
Hematology-oncology	13	13	100
General internal medicine	211	184	87
Nephrology	2	2	100
Rheumatology	1	1	100
Other	30	27	90
Neurology	19	12	63
Nuclear medicine	4	4	100
Obstetrics-gynecology	103	75	73
Ophthalmology	57	35	61
Otorhinolaryngology	41	30	73
Pathology	52	41	75
Pediatrics	103	64	62
Physical medicine	3	2	67
Psychiatry	111	24	22
Public health	7	3	57
Radiology	78	64	82
Surgery	278	234	84
Cardiothoracic	3	2	67
Colon & rectal	2	2	100
General	175	163	93
Neurological	17	14	82
Orthopedic	57	32	56
Pediatric	2	2	100
Plastic	10	9	90
Thoracic	11	9	82
Urological	1	1	100
TOTAL	2393	1818	76

ed by area specialists. Over three quarters of those surveyed do want to receive updated information as it becomes available. That includes 90 per cent of those who are involved in the management of cancer and 42 per cent of those who are not.

Seventy-eight per cent indicated they would be willing to participate in statistical studies. Many, however, gave a qualified affirmative answer depending upon the amount of time and paperwork required. Most suggested that statistical studies be coordinated through their hospitals.

Special Comments

Nine per cent (165) of the respondents had sug-

TABLE III

TYPE OF CANCER TRAINING OF PHYSICIANS CARING FOR CANCER PATIENTS

Practice	*None or Not Specified*	*Residency*	*Fellowship*	*Cancer Center*	*Postgrad Courses*	*% With Cancer Training*
Administrative medicine	1	1				50
Anesthesiology	2	1				33
Dermatology	9	8		2	2	57
Emergency medicine	6	1			1	25
Family practice	382	13		1	37	12
Industrial medicine	7	1	1			22
Internal medicine	145	59	23	8	25	44
Allergy	4	1		1		33
Cardiovascular disease	7	1	3			36
Clinical pharmacology	1			1		50
Endocrinology	2					0
Gastroenterology	5	1	5		1	58
Hematology-oncology	4		6	3		69
Gen. internal medicine	112	41	9	3	19	39
Nephrology	1	1				50
Rheumatology	0	1				100
Other	9	13			5	66
Neurology	8	3			1	33
Nuclear medicine	—	1	1	1	1	100
Obstetrics-gynecology	26	35		9	5	65
Ophthalmology	22	8	1		4	37
Otorhinolaryngology	14	14	1		1	53
Pathology	16	17	2	3	3	61
Pediatrics	50	12	1		1	22
Physical medicine	2					0
Psychiatry	17	7				29
Public health	4					0
Radiology	9	40	3	4	8	86
Surgery	117	78	7	9	23	50
Cardiothoracic	1	1				50
Colon & rectal	2					0
General	83	49	6	8	17	49
Neurological	7	6			1	50
Orthopedic	18	10			4	44
Pediatric	0	1		1		100
Plastic	2	6		1		78
Thoracic	2	5	1		1	78
Urological	1					0
TOTAL	1098	436	70	55	160	57

gestions, complaints, or questions. Comments, for the most part, centered in two general areas: communication-education, and utilization of community resources.

Close to 30 per cent of the comments were directed toward communication-education. Items most frequently mentioned were the need for increased availability of consultation, especially at KUMC, for dissemination of current diagnostic and treatment information, such as protocols which can be implemented in private practice, and for increased feedback of patient information to the referring physician. Additional 30 per cent of the comments strengthened the belief that patients often prefer receiving treatment as close to their homes as possible, to minimize travel and separation from their families. To this end, many physicians wish to administer treatment whenever possible, often under the direction of a specialist or a team of specialists.

Several physicians suggested that continuing education programs, symposia by area specialist, and traveling teams of consultants be available at regional community hospitals, which would permit more frequent attendance by physicians not within easy driving distance of Kan-

sas City or Wichita. Realizing that most communities cannot support extensive diagnostic, treatment, rehabilitative facilities and personnel expert in the field of cancer, they proposed that multi-disciplinary screening clinics, radiotherapy, cancer surgery, chemotherapy and counselling services be developed and supported at regional community hospitals where better care could be available to patients without the economic and emotional hardships of traveling to Kansas City or Wichita.

Representative Comments

Cancer patients and their families need and benefit from counselling in addition to the direct medical treatment of the malignancy. I would like to see and participate in close cooperation between cancer specialists and psychiatrists in planning psychological help for people during the emotional crisis associated with the diagnosis and treatment of malignancies, and with the death of those patients we are unable to cure.

Most elderly cancer patients having a choice of receiving the best in surgery and chemotherapy at a distance or receiving local care with a slightly decreased efficacy at home choose to forego the former and stay at home. I feel, therefore, that continuing education of myself is the only reasonable solution. Unfortunately, the number of cases is small, so that I cannot afford the time to be away from my practice for more than one day at a time.

I would like to see the concept of regional centers for oncology diagnosis and treatment more widely implemented. It is my firm professional belief that it would be at these centers, where concentrated effort and expertise exist, that cancer diagnosis and treatment could best aid the patient. By offering postgraduate courses the practicing physician could avail himself of the latest developments in oncologic detection and treatment in this so rapidly changing and complex field.

Discussion

The primary concern of the committee on cancer control is to establish mechanisms to translate the burgeoning mass of information provided by basic and clinical research into current and practical techniques which can be applied in the practicing physician's office. The variety of the mechanisms which could be employed is limited only by the availability of funds and the commitment of professionals to support and utilize a program. The information gained from this survey has provided the committee insight as to the needs, resources, and potential physician involvement in the area of cancer patient management. From this basic information a plan for priority requirements is evolving and is systematically being implemented.

Two elements revealed by the survey need to be underscored: the extent of cancer practice and the relationship between practicing physicians and the faculty of the University of Kansas Medical Center.

While the survey did elicit a relatively large response, no suggestion is being made that the results can be projected for all physicians in the region. The responses show that a large majority (74%) of physicians are involved in cancer care, from prediagnostic evaluation through psychosocial rehabilitation. Responses from many physicians indicate a growing awareness of the need for further specialized training and for increased accessibility of expert consultation.

The survey strongly documented the role of KUMC in tertiary care of the cancer patient. The expertise and facilities available at KUMC are widely relied upon by physicians throughout the region. However, responding physicians repeatedly emphasized that the nature of this relationship is symbiotic. That is, the role of each must be mutually respected and the relationship mutually beneficial. Physicians will continue to refer some patients to KUMC, which is vital to clinical training and research. In return, the practicing physician demands an active role in the team approach to cancer care, increased availability of continuing education, and decentralization of cancer treatment when and where possible. This will involve a recognition and development of existing resources in the region. The result will be better care within the reach of more people.

DIABETES RESEARCH FUNDS

Latest government statistics now rank diabetes as the third leading cause of death. But through expanded research, the chances of finding successful therapeutic approaches to reduce and arrest the complications and, ultimately, cure the disease itself are excellent.

The Juvenile Diabetes Foundation provides funds for direct research. Grant applications are now being accepted for the funding year 1977-78.

Applications may be obtained from: Grant Administrator, Juvenile Diabetes Foundation, 23 East 26th Street, New York, N.Y. 10010, (212) 689-7868.

Complete applications must be post-marked not later than March 1, 1977. Approved grants will be funded beginning September 1, 1977.

Aneurysms

Coronary Artery

JAMES E. MACIOCH, D.O., NEAL M. JENKINS, M.D. *and*
WILLIAM L. HAYES, M.D., *Wichita*

ANEURYSMS of coronary arteries have been the topic of several literature reviews since the first case was reported by Morgagni in 1716. Packard, Rigdon, and Dauod[1-3] have all reviewed this subject. Their articles, however, were studies of coronary artery aneurysms discovered post mortem.

With the advent of coronary arteriographic techniques in the 1950s, the diagnosis of this type of aneurysm during life has become possible. The first such case was cited by Munker in 1958.[4]

The authors recently had the opportunity to study a patient presenting with chest pain, myocardial infarction, and ventricular arrhythmias. Coronary arteriography revealed aneurysmal involvement of the right posterior circumflex, and left anterior descending coronary arteries.

Case Report

A 53-year-old white male was hospitalized in May 1975, with complaints of upper sternal chest distress and severe diaphoresis. This episode lasted eight hours. Neither EKG nor serial cardiac enzyme determinations revealed abnormalities consistent with myocardial ischemia or injury.

The patient did well until one week after admission, when he developed an episode of vague chest distress. This was accompanied by findings of frequent ventricular prematurities and short runs of ventricular tachycardia. A regimen of lidocaine intravenous drip, and quinidine 275 mg by mouth every 4 hours, was started. However, the patient continued to have frequent ventricular prematurities and runs of ventricular bigeminy. The quinidine therapy was discontinued. The patient was then started on procainamide, 1 gm in 500 cc of 5% dextrose in water, given intravenously and administered as a continuous drip every 6 hours. Diphenylhydantoin 100 mg by mouth every 6 hours was added to the regimen after the patient experienced another run of tachycardia.

Laboratory studies after the second episode of chest distress revealed elevated creatinine phosphokinase (CPK)-MB bands on three consecutive days, consistent with myocardial damage. Serial EKG revealed sustained T wave inversion in limb leads II, III, and AVF.

The heart rhythm stabilized during the next several days, and medication administered intravenously was discontinued. The patient was maintained on a regimen of diphenylhydantoin 100 mg by mouth every 6 hours, and procainamide 500 mg by mouth every 6 hours. The patient was then transferred to the Wesley Medical Center on July 21, 1975, for coronary arteriography.

A case of aneurysmal involvement is presented. A brief summary of recent literature on the subject is reviewed.

Past Medical History

In 1971, this patient was admitted to the hospital with vague chest pain and frequent ventricular prematurities. There was no definite laboratory or EKG evidence of myocardial infarction. In 1976, the patient was started on thiazide diuretic for hypertension. There was no history of smoking or ethonal ingestion.

Family History

The patient's father died of a myocardial infarction at age 61, and several maternal uncles died of myocardial infarctions at a young age.

Physical Examination

Vital signs on admission were: temperature, 98.4 F (36.8 C); pulse rate, 74; respirations, 20; blood pressure, 108/92 mm Hg. There was no evidence of jugular neck vein distension or carotid bruits. The lungs were clear. The heart rhythm was regular, no murmurs or thrills were present, and the apical beat was palpable at the fifth intercostal space in the left midclavicular line. S4 gallop was noted at the apex. The remainder of the physical examination was unremarkable.

Laboratory Examinations

Chest x-ray and EKG on admission were normal. The hemaglobin count was 13.8 gm/100 ml; hematocrit, 40%; white blood cell count (WBC), 6,500/cu mm,

Address reprint requests to Dr. Hayes, 3333 E. Central, Wichita, KS 67208.

with normal differential. The red cell morphology was normal. Serology was negative. The triglyceride level was 109 mg/100 ml; cholesterol, 165 mg/100 ml. CPK, LDH, and SGOT values were within the normal range.

Hospital Course

The patient's antiarrhythmic drugs were discontinued on admission.

The patient underwent selective coronary arteriography with catheterization of the left ventricle and left ventriculography on July 22, 1975. The procedure was done by the percutaneous technique, using the right femoral artery. A left ventriculogram was made by injecting 45 cc of 76% renographin at 15 cc/second, with the patient in the right anterior oblique position. Filming was done using the Cine technique. The ventriculography catheter was replaced sequentially with selective coronary artery catheters, and selective coronary arteriography was carried out with the patient in various positions, using the Cine technique.

Figure 1. Right coronary artery, 60° left anterior oblique position. Note the relatively normal diameter of the proximal portion of the artery as opposed to the multiple aneurysmal dilatations in the remainder of the artery.

Figure 2. Left coronary artery, 60° left anterior oblique position. The three subdivisions of the artery as viewed from left to right are: left anterior descending branch, diagonal branch, and circumflex branch.

The following x-ray results were obtained: left ventriculogram revealed good ventricular function throughout; no aneurysms or akinetic segments of the left ventricular wall were seen; right coronary artery *(Figure 1)*, and both the anterior descending branch and circumflex branch of the left coronary artery revealed extensive aneurysms of the proximal portions of these arteries *(Figure 2)*: the aneurysmal segments alternated with stenotic areas; the distal portions of the arteries appeared to be normal, except for the very distal portion of the anterior descending branch of the left coronary artery, which revealed a small aneurysm; the pressure within the left ventricle and aorta was normal.

Two days after cardiac catheterization, the patient underwent a modified treadmill exercise test (the modification was made in light of the recent myocardial infarction). He was exercised at 2 miles/hr at increasing grades up to 10.5°. The heart rate reached 100 beats/min, and blood pressure increased to 140/80 mm Hg.

No abnormalities were seen in the electrocardiogram during or after exercise. There were no ischemic changes or ectopic beats.

The patient experienced no chest pain or evidence of arrhythmias during the hospital course. He was discharged on anticoagulation therapy which consisted of warfarin sodium 5 mg daily. On this regimen, his prothrombin time value was 24 seconds (normal: 13 sec). This patient has been followed for a total of seven months since discharge and has experienced no episodes of chest pain or arrhythmias. During this period, he has undergone a cholecystectomy for cholecystitis and cholelithiasis without complication.

Discussion

In 1716, Morgagni reported the first case of coronary artery aneurysm, luetic in origin. The first description of a coronary artery aneurysm of congenital origin was made by Bougun in 1812.[5] In 1958, Munker reported a case of congenital coronary artery aneurysm diagnosed during life.[4] Since that time, an increasing number of coronary artery aneurysms have been diagnosed during life.

One of the most complete early reviews of coronary artery aneurysm literature was made by Daoud in 1963.[3] In his review of 89 cases diagnosed at autopsy, he found etiologic factors to include arteriosclerosis in over 50 per cent, congenital causes in 17 per cent, mycotic factors in 11 per cent, and luetic involvement in 4 per cent of the cases. Daoud also found 15 cases of multiple coronary aneurysms. He reported a significant association of aneurysms of the abdominal aorta with accompanying aneurysms of the coronary arteries.

In Wilson's[6] review of 14 cases of coronary artery aneurysms diagnosed antemortem 2 were thought to be arteriosclerotic and 8 congenital in origin.

Since Wilson's review was published in 1975, we have found 18 subsequently reported cases in the literature.[7-14] Thirteen of these were thought to be arteriosclerotic, 2 due to polyarteritis nodosa, and 1 each of sclerodermal and congenital origin.

Clinical Features

Chest pain and the presence of precordial murmurs were frequent findings in Wilson's review. Thirteen of the 18 cases in our review indicate the presence of chest pain which was commonly substernal and related to exertion.[8-12]

The most frequent physical finding in our review was a systolic ejection murmur heard best along the left sternal border and apex.[7, 10] S4 gallops were reported in four cases.[7, 8, 10]

In Wilson's review, EKG abnormalities were found in all but one case. Five of his 14 cases had chest x-ray findings thought to be related to the presence of coronary artery aneurysms. EKG abnormalities were reported in six of the cases we reviewed, with the most common finding being nonspecific ST segment and T wave changes.[8-10] Two of the cases reported positive treadmill exercise tests.[9, 12] The treadmill test done on our patient was negative at a maximum heart rate of 100 beats/min. Four of the cases we reviewed reported findings of calcification, either by x-ray or fluoroscopy, over the areas of aneurysmal dilatation.[9-12] Two papers[10, 14] reported cases thought to be of arteriosclerotic origin, which had either elevated serum cholesterol or triglyceride levels. Both of these levels were normal in our patient.

Location of Involvement

Wilson[6] reported in his review of seven cases of one single coronary arterial aneurysm, with the remainder showing multiple aneurysms. He also stated his own reported case was the only one in which stenosis of the coronary artery was noted at the proximal end of the aneurysm.

Our review lists eleven cases of single vessel aneurysms,[8, 10, 11, 14] three of which had stenoses proximal to the aneurysms;[10, 11] three cases showed aneurysmal involvement of two vessels;[10, 13] two cases demonstrated both left main and right coronary artery aneurysms;[9, 12] and one case had triple vessel involvement.[10] To this list we add our own case of triple vessel aneurysms involving the right, left anterior descending, and left circumflex coronary arteries.

Treatment

Treatment of patients with coronary artery aneurysms has been diverse, varying from no treatment at all,[10-12] to anticoagulation therapy only,[7, 10, 14] to bypass graft surgery.[6, 10, 11, 14] Since our patient had no chest pain and no further arrhythmias, we elected to treat him with anticoagulation therapy only.

Summary

An unusual and rare case of multiple aneurysms of the three major coronary arteries has been presented. Our patient's clinical course included a myocardial infarction with associated refractory ventricular arrhythmias.

A brief review of the symptoms, physical findings, and radiographic abnormalities common to reported cases of coronary artery aneurysms was reported. A

(Continued on page 40)

The President's Message

This was written at the AMA Clinical Convention in Philadelphia. It is appropriate that the meeting this Bicentennial year be held here. We are reminded that 5 of the original 56 signers of the Declaration of Independence were physicians. Today, 3 of the 435 members of the U. S. House of Representatives are physicians. We have no physician members in this year's Kansas House of Representatives, or Senate; this should tell us something.

The work at the convention has challenged the mind, strengthened friendships and alliances and, incidentally, flattened the glutei. Some of the items receiving serious consideration were:

Definition of primary care
Drug substitution
Professional liability
National health insurance
Peer review and PSRO
Relative value schedules
Ancillary medical personnel
Continuing medical education
Unnecessary surgery and second opinions
Medicare and medicaid fraud and abuse
Television violence
Help for the sick and impaired physician

When you consider that one of these topics required two hours of discussion by the House of Delegates after the previous day's work by the reference committee, it becomes apparent that many problems exist; also, that your professional organization and the people who function in it are hard at work. If any in our profession are inclined to sit back and take the attitude that all of the above is "medical politics and does not involve me," I respond by saying that, all of the above involves the health care system for all of the people in our country and each of us in providing the same.

Your professional liability commission and legislative committees have been at work. With significant changes in the composition of our state legislature, and at least two cases of interest to us pending in the courts in Kansas, it is too early to predict what may be accomplished. However, you have heard for years of the key man system, both in the KMS, and the AMA. Please become a key man by developing a good relationship with your representative and senator, then let your KMS know you have done this. The system is simple and workable. We've said it before and we say it again, *become involved.*

The book *Kansas Doctor* has been received and is available. See ad on page — in this issue.

Council district meetings have been held in nearly all districts, and the participation has been excellent.

Fraternally,

Emerson Joder, M.D.

President

The Nonstory

It has become traditional at the end of each year for the media to report their selections of the most important news stories of the closing year. It was probably inevitable, therefore, that at the end of the Bicentennial Year they should try to come up with the top stories of the past two centuries—and so they did. You may have seen them and we shall not try to list all of them here, but the criteria for inclusion in the list (other than getting the votes) are not altogether apparent. Most of our wars made it, with the Revolution taking overall first place, but glory was not the factor since Vietnam made it (though the 1812 edition and the Mexican and Spanish-American Wars did not). A few personalities made it—Thomas Edison and his electricity, Henry Ford and the Model T, the Wright brothers—but not Samuel Morse, or Alexander Bell, or Lee DeForest (to whom the media would seem to owe something). Sharp business deals rated approval in the form of the Louisiana Purchase, but Seward's Folly didn't (eat your hearts out, Alaskans). Social, economic, and political changes made it—the '30s Depression, the New Deal, Women's Lib, even the desegregation ruling against the Topeka Board of Education. The assassinations of Lincoln and Kennedy were included, but Garfield's and McKinley's were not.

In all, one can agree that the items included, though they vary from acutely compelling episodes to broad philosophies to influential persons to dramatic or catastrophic events, rate high in their impact on the course of our national life. One does feel that some of them—some of the more recent ones in particular—owe their inclusion more to the fact that they occurred during the lifetimes of the voters than to their surpassing significance in the two hundred-year scene. In fact, that is why we are commenting on it at all (that and an upcoming deadline). Our professional chauvinism promptly called our attention to the fact that not one medical event or personality made the grade.

We realize that all the other professions, organizations, and disciplines omitted will feel similarly slighted, but we'll have to leave it to them to take their own umbrage—wherever it is one takes umbrage. For our part, it offers an opportunity (again) to voice one of our pet convictions: the public expects success from its physicians, whether in the public or private sector, and when success is achieved, it is accepted as standard performance with no special cause to be writ in the annals of history. True, some medical matters receive attention at the time of occurrence, but their news handling is more often than not misconstrued by the public and annoying to the profession.

If we seem to have failed to come up with some worthy accomplishments in all this time, it must be remembered that the United States entered the scene as a shaker and mover of medical progress relatively recently. The countries from whom we derived our physical, cultural, and intellectual backgrounds had a head start of a good many centuries. In a practical sense, it has been only in the second of our two hundred years that we have been able to turn our professional attention from the extensive effort to provide medical service to the growing country to the intensive effort of developing basic research and its concomitant and resulting techniques. The medical thought which dominated the first century of our national life was that which originated in the Middle East-Mediterranean area, moving westward through Greece, Rome and the Italian universities, the German university complex, Paris, London, Edinburgh, Vienna (which well into this century was still the finishing school for the medically elite). In the new world, only in a few centers and by the laborious preceptor system, was anything like a native medical culture developing. (And as we know from television, which made the list, the entire output of physicians was sent to the expanding frontier to minister to the needs of hapless dance hall girls and perforated cowboys.)

The geographic, economic, and population expansion which followed the American Revolution absorbed much of the physicial and intellectual energy of the young republic. The medical response was in the establishment of schools and hospitals and promotion of scientific medical

practice by adapting the classical forms to the needs of this new society. A certain amount of effort was needed simply to eliminate (insofar as we have) the various charlatanisms, which thrived on this expansive citizenry whose need for medical attention could not be met entirely by orthodox practitioners (and orthodoxy was by no means well defined). The organization of physicians into a cohesive, moderately well regulated entity was an accomplishment of some importance in itself. While we would not, perhaps, put the formation of the American Medical Association in the rarefied realm of the Top Twenty, its promotion of legitimate medical practice, medical education standards, and medical ethics was a benefit to the country which is largely lost sight of these days. The story was not, of course, the establishment of this national medical coalition but the attainment of a stage of medical maturity and structural development which would be the foundation for later successes. (Nor was this trend occurring only in the medical profession. It was occurring all through the national fabric, and the overriding and truly top story is that, given the conglomeration that is the United States, it has worked at all.)

It must be kept in mind also that scientific endeavor, including its medical expression, is a supranational activity. There are no new discoveries or thoughts, only new applications of the old, so it is inevitable that, being derivative of the old world, much of our early accomplishment should be considered simply an extension of that of the old countries. Professionally, we have taken the giants of those cultures into our own concepts so completely that we experience some surprise when we stop to realize they were of other national origin. The establishment of the identity of American medicine came slowly as individuals contributed increasingly to medical progress and coalesced into groups who gained the respect of the established scientific world by sheer force of accomplishment. It didn't come easily.

Still and all, even acknowledging the debt to our origins and the mingling of nationalities represented in science and the need to meet immediate demands at the expense of building a separate medical heritage, there were some notable activities. If Davy and Priestly provided the materials, Crawford Long and William Morton and the others merit consideration for their pioneering in anesthesia, which led the way to broad expansion of surgical procedures. Walter Reed and William Gorgas produced medical successes of great social and political significance. (Can one doubt that our relations with our Latin neighbors would be better if our political management had been of the same order?) What of Salk and Sabin? Waksman? James Watson? We can't claim Osler's national origin, but the Hopkins group made some impact on the nation and the world as have the Mayos and Menningers. In fact, the problem with such a list is not to overlook worthy inclusions (even as in top twenty story lists).

If it took the older countries some time to take the new nation seriously (in other areas as well as medicine, we may note), there seems to have been some catching up of late. It wasn't until 1930 that the first American, Karl Landsteiner, was awarded a Nobel prize in physiology and medicine. Since that time, well over half of the awards in this category have gone to Americans. Even allowing for the influx of minds from other countries—and whether they came seeking greater freedom of thought, communication, or remuneration—a notable story is there, whether it has the necessary elements to be recognized by the media or not.

The story is that the United States has become the medical leader of the world. Since this grew from the old world, it is a tribute to these origins rather than a denigration of them. This would seem to say something about the American medical system and American medical personnel—though we would rather someone else had said it. Even if we didn't make the Top Twenty, this constitutes a self-bestowed Honorable Mention—and a hope for reconsideration in 2076. And the conviction that we shall be here then—somewhat altered in form, perhaps, but not in purpose or motive.—*D.E.G.*

Vox Dox

Vox Dox Editor:

I was shocked and dismayed to see how my article, entitled* "The Course of Severe COPD," was editorially changed in the November '76 issue. I think this attention getting attempt badly damaged the message I intended to offer the readers of your journal.

I have spent more than a decade studying the course and prognosis of COPD and have simultaneously tried to offer guidance to physicians regarding therapy of seriously ill patients with advanced COPD. I have always posed a hopeful attitude based upon what we were learning about the results of therapy. The article itself says "Considerable enthusiasm for therapy remains because the symptom complex can be lessened, exercise tolerance improved, hospital needs reduced and gainful employment regained or maintained in certain individuals." Certainly this is not disaster!

It seems almost incredible that you would take it

* Emphysema + Bronchitis = Disaster—I think this is a big mistake!

(Continued on page 37)

Guest Editorial

JOHN J. FALLON, ***Shawnee Mission***

(The following comments were presented to staff members of the Shawnee Mission Medical Center at a recent staff meeting by Mr. Fallon who is attorney for the Center. He is a charter member of the American Society of Hospital Attorneys, and is currently serving as Chairman of The Greater Kansas City Society of Hospital Attorneys. We are pleased to present it as a knowledgeable and concise summary of the legal aspects of the hospital administration-staff relatonship which is particularly pertinent as another legislative session gets under way.—*Ed.*)

In order to understand and appreciate medical staff responsibilities and duties in relation to the hospital administration and board of directors, physicians should know something about how the law relating to hospitals and health care has changed over the course of the last ten years or so. The law moves slowly and hospitals themselves changed drastically long before the courts took any particular notice. In their early days, hospitals were places where—absent very unusual circumstances—only the very poor were treated. Persons of means who were ill were usually treated in their homes and were served, when the patient's condition so indicated, by what we now call private duty nurses. Of course, if surgery was necessary, the patient went to a hospital, but if he was just sick, he stayed home—unless he had no suitable lodging within which to recuperate and no funds with which to pay for nursing care. However, it became apparent that as medical science progressed, hospitals were in a much better position to provide sophisticated medical care, and a basic change in our practice of treating the sick soon occurred. Today, any person whose illness is the least bit serious or whose condition can't be quickly and simply diagnosed is invariably sent to a hospital for in-patient study and analysis. With the advent of widespread medical insurance, and as the result of federal legislation providing for the payment of the hospital expenses of our elderly citizens—and with the state and county enactments which pay the medical expenses of our indigent—almost any person whose illness is at all serious is now hospitalized.

Until relatively recently, however, the law viewed hospitals almost as it viewed hotels or office buildings, that is, as institutions furnishing facilities to be used by physicians in the treatment of their patients. In other words, the hospital was seen as an extension of the physician's office, different only in that it offered diagnostic and treatment facilities of a more sophisticated nature and, in addition, made available to the patient the expertise of specialized practitioners who were able to assist the attending physician in making his diagnosis. In a hospital, a physician could avail himself easily and painlessly of such niceties as a laboratory with which to perform body fluid and tissue tests, a full range of radiological services including the interpretation of x-rays by a trained radiologist, and, in a modern urban hospital, such additional facilities as cardiovascular diagnostic center, departments of nuclear medicine, and so forth. However, as physicians began to group themselves together and to direct their patients to hospitals for treatment, they also became paternalistic about hospital facilities and they tended to begin to exclude (sometimes for selfish reasons or in the hope of inhibiting competition) other physicians who desired to become staff members. By this time, medicine had progressed to a point which made medical staff membership extremely important to a physician. Indeed, no physician located in an urban or semi-urban community could effectively practice medicine without having a hospital affiliation. As a result, physicians who had been turned down for medical staff membership began to turn to the courts in an effort to force their way into the hospitals located in their communities and as a result such physicians raised the basic legal question of whether a hospital had the right to establish standards and to promulgate rules and regulations governing the appointment of physicians to its staff. In 1965, the Supreme Court of Illinois, in a decision which has subsequently appealed to the Supreme Court of the United States, found for the first time, that the role of a hospital in modern day society was far more than that of a mere furnisher of facilities and that it was, in effect, an institution legally bound to provide its patients with the highest possible level of medical care. This decision, which is familiarly known as the *Darling* case, had a marked effect on the future administration of hospitals, an effect that went well beyond the fundamental question raised by the plaintiff in the case. As I have indicated, the plaintiff sought to attack the establishment of specific standards for medical staff membership and to require hospitals to confer staff privileges on *any* licensed physician. In upholding the establishment of such standards, the Illinois court placed squarely on the governing body of a hospital the *absolute* duty to see that the level of patient care provided by that institution was as high as good medicine and sound management could make it. In other words, the *Darling*

case, as a matter of first impression, established clear liability on the part of a hospital's governing board for the kind of patient care *that* hospital practiced. No longer was a hospital merely a facility in which physicians placed their patients and treated them as the physician himself decided. Now the hospital was *required* to establish uniform standards for patient care and to see that those standards were consistently observed. The failure of a hospital to perform its duty in this connection subjected it to liability, the court decreed, and the *Darling* case, therefore, opened the door to malpractice claims directed *at hospitals* as well as at physicians. The *Darling* case was closely followed by a number of decisions in other jurisdictions which adopted and re-emphasized the rationale of that holding. As a matter of fact, in Kansas the *Darling* case was soon followed by what is called the *Foote* case in which the Supreme Court of Kansas held that a hospital's duty to provide its patients with the highest possible level of medical care was such a paramount part of its over-all mission that it could legally deny a physician-medical staff membership without even giving him a hearing. The right to a hearing and an applicant-physician's right to have reasonable standards fairly applied to his application for medical staff privileges are rights which have recently undergone and are still undergoing some change and I will refer to these rights, at least briefly below. The *Darling* and *Foote* cases, however, because they required hospitals to establish standards of patient care and to scrutinize and weigh medical staff applications carefully so as to protect their patients from *unqualified* practitioners, placed a heavy burden on all members of a hospital's medical staff and especially on those who serve their hospital as members of its credentials committee. While the cases hold that the *ultimate* responsibility for the admission or re-admission of a physician to medical staff membership lies with the hospital's governing board, the courts have long recognized that in most instances, the governing board of a hospital is comprised of laymen, obviously unqualified to make a professional judgment as to the medical competency of a physician. Accordingly, the courts have held that while the hospital's governing board may not abdicate its responsibility in this regard, it may rely on its medical staff in making a judgment on a particular physician's professional ability.

This, then, is why all accredited hospitals now have detailed medical staff bylaws including comprehensive investigatory procedures for judging not only the professional competency of a *new* applicant for medical staff membership, but also for judging, through an ongoing peer review system utilizing such devices as tissue committees, autopsy reports and mandated review of patient charts, the professional competency of *existing* staff members and the level of patient care provided by the hospital they serve. The peer review system has become even more sophisticated recently with the enactment of federal legislation which requires independent peer review unless the hospital's own review system meets certain proscribed standards. Kansas was among the first of the states to recognize the potential exposure this peer review system involved and so as to make it plain that those participating in a peer review system must be permitted to do so freely and fairly and without fear of liability, Kansas enacted in 1973 what is known as Section 65-442 of the statutes, entitled *Liability for Damages of Members of Medical Staff and Medical Review Committees—Limitations.* Sub-section A of this statute specially relieves hospital board members and medical staff members from liability for any act or statement performed in good faith within the scope of the function of such board or staff member and in accordance with written bylaws. However, as some of you know, in this country, anyone can sue any one else for almost any reason and the person sued is put to the expense of employing counsel to protect himself, an expense he does *not* normally recover even though the suit is ultimately determined to be entirely without merit. The Kansas Immunity Statute obviously has the same basic defect, and as a result, Shawnee Mission Medical Center long ago elected to insure its physicians against liability in the performance of their committee duties. Our basic insurance coverage in this regard amounts to $1,000,000 per occurrence, and it is supplemented by $5,000,000 worth of umbrella coverage.

This insurance coverage requires the Medical Center's insurance carrier to provide counsel, at the expense of the carrier, to defend any medical staff member alleged to be liable for any act he performs while serving as a medical staff committee member. Therefore, not only does the Kansas Statute specifically absolve physician-committee members from liability, but the hospital's insurance carrier is required to provide any such committee member who may be sued, with counsel at no cost to him.

I indicated above that the cases dealing with the question of medical staff privileges have undergone and are now undergoing some change. Initially, the courts distinguished between private and public hospitals as to questions involving medical staff privileges. By this I mean that the courts were much more willing to interfere in favor of physicians making application for appointment to the medical staffs of public hospitals than they were in cases involving private hospitals. For the most part, however, this distinction has been gradually disappearing, and the courts are now holding that if a hospital has enacted reasonable by-law provisions governing staff appointments and if those by-laws have been *equitably* enforced, then the courts will not substitute

their judgment for that of the governing body—meaning that if the governing board has refused a physician's application for staff membership, a court will not overturn that decision, even though the court might not agree with the board if it were to decide the question anew or, to use the legal term *de novo*.

The state of the law is now such that a court having before it the propriety of a refusal by a hospital to grant medical staff privileges will look only to two areas: first, are the hospital's by-laws reasonable regarding the requirements for medical staff membership; and second, have those by-laws been fairly applied to the plaintiff in this case? If the court can answer both of these questions in the affirmative, it will go no further, and the governing board's decision will be enforced.

This will emphasize why it is so important that members of a medical staff carefully follow the provisions of the by-laws and actively involve themselves in the decision-making process designed to make them work as they were intended to work.

Before concluding, I want to report briefly on some of the latest developments in the continuing malpractice insurance crisis. I have just returned from the 9th annual meeting of the Society of Hospital Attorneys of the American Hospital Association, held, this year, in Monterey, California, and, as you might imagine from the locale, malpractice was a prime topic of discussion.

California has been hard hit in this area, but it is making progress in moving toward a solution. California is the state in which arbitration is being used to a greater degree than perhaps anywhere else and California is also a state in which the arbitration approach has been tested and approved by the California courts. Kansas has an arbitration statute but until it is amended so as to clearly cover future, as opposed to present claims, it probably cannot be used for these purposes. I urged the study committee organized by the Kansas Hospital Association to give careful consideration to amending the Kansas Arbitration Statute so as to make it applicable to future claims, but I regret to say that arbitration as a proposed solution to the malpractice crisis in Kansas was not included in the statutory package recently enacted by the Kansas Legislature. This is probably for the reason that some experts in the field believe that until the malpractice crisis in a given jurisdiction becomes severe, arbitration, as a solution, is difficult if not impossible to sell. Plaintiff's attorneys do not like it, for obvious reasons, although California's experience indicates that after they become used to it, they find it is cheaper, simpler and speedier, as well as more objective and more professional. The aura of the court room is removed and the arbitrator (there are usually three, but the decision is basically made by a single arbitrator who is selected by the other two) is interested only in the facts, is dispassionate, and is not likely to be swayed, as a jury might be, by eloquence and oratory. The California experience indicates that most claims can be disposed of by arbitration in one day as opposed to seven days for a court trial. Arbitration hearings are usually held in an attorney's office in a private, non-accusatory setting. Kansas may ultimately come to this. The California experience indicates that when arbitration is first introduced there is a sudden up-swing in the number of cases filed because of the fact that the smaller cases, which normally do not attract attorneys operating on a contingent fee basis, are now being arbitrated. The decisions being rendered, however, are more professional and are fairer both to the patients and to the physicians involved.

Arbitration as a solution must be approached carefully because of the Doctrine of Adhesion. Basically, under the Doctrine of Adhesion, a contract made with one in an inferior bargaining position can be invalidated. In order to meet this objection, an arbitration contract must be drafted carefully and the patient should be given a period of thirty to sixty days after having signed such a contract within which to disavow it.

Some other developments in California may be of interest. By way of example, the proposal that hospitals bear a share of the malpractice premium payable by their staff physicians has run into difficulty with Medicare, Medicare having taken the position that such payments are not reimbursable. Additionally, the Internal Revenue Service has taken the tentative position that, with respect to charitable institutions, such as Shawnee Mission Medical Center, the partial payment of such premiums violates their non-profit status by directing income to private individuals in violation of their charters. Most malpractice carriers are now converting to a claims made as opposed to an occurrence basis and some of the major malpractice carriers are now limiting coverage by function. By this, I mean that some carriers are now willing to cover anesthesiologists only in the event that they remain in the operating theatre at all times, that they follow prescribed procedures, and that they keep adequate medical records. Other such carriers are limiting coverage to orthopedic surgeons on the basis of their ability and experience. For example, policies are now being issued which do not cover certain orthopedic surgeons for a whole hip operation if, in the judgment of the *carrier,* the physician in question is not sufficiently experienced to perform that kind of procedure. Other carriers in California are extending coverage only in the event that the physician's patient has signed an arbitration agreement.

The Kansas Legislature has enacted a malpractice package which includes the establishment of a Health Care Stabilization Fund, a circumscribing of the Statute of Limitations, elimination of the *Ad Damnum Clause,*

admissibility of evidence of the receipt of collateral payments, malpractice screening panels and other such items. With respect to the malpractice screening panel enactment, it should be noted that on May 14, 1976, the Illinois Supreme Court declared unconstitutional that mandatory provision for a three-member medical review panel to screen malpractice suits prior to trial.

I want to conclude by indicating to you what I think is ahead of all of us. In summary, these developments indicate that in the future, Health Care providers will be increasingly supervised by agencies and entities which are basically non-professional in nature. The insurance companies are already in the act by arbitrarily limiting coverage, the legislatures of all the states are tightening down on licensing procedures as well as on appointment and reappointment processes, and the Federal Government's *Big Brother* role is likely to be extended rather than circumscribed. The catalyst for all of this outside interference is the ever-ascending cost of Health Care and malpractice judgments are only the tip of the iceberg. The nation's Health Care bill last year amounted to one hundred point nineteen billion dollars, or an average per capita cost of $500.00 for each American citizen. To put it another way, the General Motors Corporation has estimated that $565.00 of the cost of each car it produces goes to provide Health Care facilities for its employees. Ahead of us is either a program which involves substantial co-insurance or a substantial deductible element in every health policy issued—or control of the Health Care industry by the political market, by which I mean statutory discipline on both the federal and state levels. The cost of Health Care must be reduced. If it is not substantially reduced, and reduced very soon, increased governmental regulation of all sorts and kinds is most certainly ahead.

Vox Dox

(Continued from page 33)

upon yourself to damage some of the important message within the paper I offered, in good faith, and presented at the annual meeting of the Kansas Chapter of the American College of Chest Physicians. It's hard for me to know how this damage can be repaired, but I suggest you publish both this letter and offer an apology to the physicians of Kansas who maintain a high level of enthusiasm for serving patients with advanced respiratory disease based upon contemporary knowledge.

THOMAS L. PETTY, M.D.
Professor of Medicine
Head, Division of Pulmonary Sciences
University of Colorado
Denver, CO 80262

Editor's Reply:

1. Except for minor editing changes of punctuation and syntax, Dr. Petty's article was published exactly as submitted without change of form or content.

2. Dr. Petty's concern apparently relates to the "catch" headline, "Emphysema + Bronchitis = Disaster" which he considers inappropriate and damaging to the purpose of this paper. In using this headline to attract the reader's attention, it was our intent—and belief—that the thought was consistent with the basic nature of chronic obstructive pulmonary disease and that those reading the article, from whatever stimulus, would thereby learn of Dr. Petty's regimen and the hopeful attitude he displays toward the condition. The crux of the matter would therefore be the number of prospective readers who, on noting the headline, would be dissuaded from reading the article. There is no way of knowing this number (and obviously we think it is negligible) but if this should come to the attention of any readers who were prompted to act in this manner, we shall be glad to hear from them and acknowledge the fact accordingly. In the meantime, it can be noted that Dr. Petty's own title, "The Course of Severe COPD," imparts nothing of this hopeful message either.

3. Galley proofs of Dr. Petty's article were forwarded to him more than a month before publication and contained the article exactly as published—including the offending headline. In the absence of any objection or correction on Dr. Petty's part at that time, it was naturally assumed that the copy met with his approval. We regret the distress Dr. Petty has experienced as a result of his interpretation of the matter. We had no intention of depreciating Dr. Petty's article—we would hardly accept an article for publication, then attempt to depreciate it through the medium of a headline—and do not feel our handling of it has done so. Under these circumstances, we do not believe an apology is warranted.

Letters to VOX DOX should be addressed to the Vox Dox Editor, Journal of the Kansas Medical Society, 1300 Topeka Avenue, Topeka, Kansas 66612.

Woman's Auxiliary

Open Letter to the Doctors of Kansas

Dear Kansas Physicians,

January has always been a dull, depressing month; however, this year it is vital and expedient to encourage Auxiliary members to read newspapers, magazines, and special articles relating to new and old legislation concerning medicine. Our legislative chairman, Anne Rempel, Wichita, seeks volunteer letter writers for Legs Line, which involves special alerts to write letters immediately to legislators and congressmen, both pro and con, relating to specific health bills that can change the future of medicine. New Auxiliary members should quickly offer their writing arms and typing fingers because many of the proposed bills will affect our young medical families. The AMA is sponsoring an AMA leadership seminar, January 20-23, in Chicago, and will feature George Gallup, Ann Landers, HEW and other federal agency representatives, congressional members from both parties, and AMA speakers. Our legislative co-chairman, Vicky Young, Kansas City, will attend this conference with me. Since I am now working in our area as a weekend reporter for the Gallup organization, George Gallup's participation particularly interests me.

February 28: Our first mid-winter board meeting at the Salina Hilton from 9:30 AM to 3:00 PM. A chicken dinner at the Brookville Hotel is the Sunday night entertainment for early arrivals. Dr. Herbert Modlin, of the Menninger Clinic, is to be our outstanding guest speaker. He will discuss, "The Impaired Physician and Stress in the Medical Marriage," and this combination should entice curious members. The board meeting will be based on a sharing and learning experience, and instead of board members presenting suggestions, we will be asking for specific and successful programs to be shared by our grassroots members. All members are cordially invited.

March 14-15: Dates of a two-day eastern Kansas jaunt, and Kansas Cityans, JoAnn Walker and Sue Burkett, are arranging luncheon, program, and a tour of KUMC. Participants will have the opportunity to shop Monday evening in Kansas City; and for Tuesday, Vicky Young is arranging a special legislative program and tour of the State House and legislative assemblies in Topeka. More details will appear in the next *Kansas Doctor's Wife.* Members are encouraged to attend either or both days.

Unfortunately, we sometimes hear the question: What do doctors' wives do with all their free time? Play bridge, golf, shop, travel and keep their country clubs in business!! I am challenging this question and sharing some of our special programs and projects, including Riley County book sale. The profits from this will go to various community projects. Some other special people and their pet projects are: Katie Pyle, Topeka; Jesse Branson, Lawrence; and Dorothy Beahm, Great Bend, who should be congratulated and thanked for their volunteer work toward the improvement of Kansas nursing homes. Another Lawrence member, Shirley Wilcox, is chairman of the Lawrence Good Cheer program for the aged and handicapped. Lenora Wiens, Ness City, helped organize a bicycle safety rally and parade in that small western town. Lela May Young, Kansas City, performed her nursing duties at Bethany Hospital on Christmas Day, so other nurses could be free. Diane Neighbor, Pittsburg, and her ambitious gals, spouses, and the Chamber of Commerce organized a special recruitment excursion to Kansas City, to entertain graduating residents and spouses at a special evening's entertainment at Crown Center. The Kansas City and Wichita Residents Wives are extremely active with interest groups, programs, and fund raising projects. The Kansas City gals recently sent out a mailing with many worthwhile places to shop and obtain special services, with appropriate comments. (Wish somebody would do that in Great Bend!!)

The Northeast Auxiliary, composed of members from over ten communities, actively supports AMA-ERF, plus a strong scholarship program; Margaret Aldis, Fort Scott, seeks support of her members for her cancer projects. The Ford County Auxiliary, under the leadership of Peggy Schwartz, president, prepared lovely Christmas ornaments for Fort Dodge residents, and also sent Christmas gifts to Larned State Hospital patients. Ford County nutrition puppets traveled to Pretty Prairie and Minneapolis, to be shared with the local communities. No review is complete without mentioning Dee Cauble, Wichita, and Project Concern, and she is ably assisted by auxilians Bertha Milbank, Peggy Grillot, Jo Lovett, and others. Dee has truly earned her crown in heaven and has no peer in Kansas for her charitable work for others in the United States and abroad.

PHYSICIANS: This is what the auxiliary is all about:

sharing and helping others, and giving of yourself and your time to your own community. From the December 6, *AMA News:* "Reach out to your community and it will reach back to you." Please ask your wife if she has paid her dues, and if not, won't you please mail a tax deductible $14 check for state and national dues to our state treasurer: Evelyn Huff, Lake Quivira, Kansas City, KS 66106. We need the support of the Kansas Medical Society, and hope that you will seek our support.

Sincerely,
Jean Cavanaugh
President
Woman's Auxiliary to the
Kansas Medical Society

CATEGORY I CREDIT CONTINUING MEDICAL EDUCATION PROGRAM

The practicing physician is continuously bombarded with brochures and advertisements for Category I credit programs. It is often difficult to determine what programs are truly Category I credit programs.

The AMA recommends that a standard announcement be used for brochures, announcements, etc., concerning the Physician's Recognition Award.

The general format of the announcement is:

"As an organization accredited for continuing medical education, the (NAME OF THE ACCREDITED ORGANIZATION) certifies that this continuing medical education offering meets the criteria for ( ) credit hours in Category I of the Physician's Recognition Award of the American Medical Association, provided it is used and completed as designed."

Please look for this announcement when interested in Category I credit programs.

The practicing physician should be aware that continuing medical education programs in Categories II through VI can also be of great value to the physician's educational program, and should not be overlooked in favor of only Category I credit programs.

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Aneurysms

(Continued from page 30)

knowledge of these parameters may alert the examining physician to this diagnostic possibility.

Our patient has been treated successfully thus far with anticoagulation therapy, although other therapeutic modalities are also used.

References

1. Packard, N. and Wechler, H. F.: Aneurysm of the coronary arteries. *Arch Intern. Med.* 43:1, 1929.
2. Rigdon, R. H. and Vandergriff, H.: Aneurysm of coronary arteries: review of the literature and report of a case. *Amer. J. Surg.* 61:407, 1943.
3. Daoud, A. S. *et al.:* Aneurysms of the coronary artery: report of 10 cases and review of the literature. *Amer. J. Cardiol.* 11:228-237, 1963.
4. Munker, T.; Petersen, O. and Vesterdal, J.: Congenital aneurysm of the coronary artery with an arteriovenous fistula. *Acta Radiol.* 50:333-340, 1958.
5. Bougon, cited by Scott, D. H.: Aneurysms of the coronary arteries. *Amer. Heart J.* 36:403-412, 1948.
6. Wilson, C. S.; Weaver, W. F. and Forker, A. D.: Bilateral arteriosclerotic coronary arterial aneurysms successfully treated with saphenous vein bypass grafting. *Amer. J. Cardiol.* 35:315-318, 1972.
7. Gupta, M. *et al.:* Congenital aneurysm of the left ventricle associated with supravalvular aortic stenosis and aneurysm of the left main coronary artery: case report and review of the literature. *Angiology* 26:269-275, 1975.
8. Chaithiraphan, S. *et al.:* Multiple aneurysms of coronary artery in sclerodermal heart disease. *Angiology* 24:86-93, 1973.
9. Liddicoat, J. E. *et al.:* Coronary artery aneurysms in a 9-year-old child. *Surgery* 76:845-847, 1974.
10. Oliveros, R. A. *et al.:* Atherosclerotic coronary artery aneurysm. *Arch. Intern. Med.* 134:1072-1076, 1974.
11. Anabtawi, I. N. and DeLeion, J. A.: Arteriosclerotic aneurysms of the coronary arteries. *J. Cardiovasc. Surg.* 68: 226-228, 1974.
12. McMartin, D. E.; Stone, A. J. and Franch, R. H.: Multiple coronary artery aneurysms in a child with angina pectoris. *New Eng. J. Med.* 270:669-670, 1974.
13. Crook, B. R. N.; Raftery, E. B. and Oram, S.: Mycotic aneurysms of coronary arteries. *Brit. Heart J.* 35:107-109, 1973.
14. Berkhoff, H. A. and Rower, G. G.: Atherosclerotic ulcerative disease and associated aneurysms of the coronary arteries. *Amer. Heart J.* 90:153-158, 1975.

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Manuscripts must be typewritten, double spaced, leaving wide margins. Submit the original, plus one copy if possible.

Titles should be short, specific, and amenable to indexing. A subtitle is frequently used to keep the main title short.

Summary: All manuscripts should include a short abstract which is a factual (not descriptive) summary of the work.

Author Responsibility: The author is responsible for all statements made in his work, including changes made by the copy editor. Manuscripts are received with the explicit understanding that they are not simultaneously under consideration by any other publication. Publication elsewhere will be subsequently authorized at the discretion of the Editor.

Galley Proof: To make extensive changes in the article after the text has been set in type may require an additional cost which exceeds the original. The galley proof is for correction of ERRORS, and a rewriting of the article should be done on the original copy BEFORE it is submitted for publication.

Drugs should be called by their generic names; the trade names can be added in parentheses if they are considered important. All *units of measure* must be given in the metric system.

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Bibliographic references should not exceed 20 in number, documenting key publications. Personal communications and unpublished data should not be included. References should be arranged according to the order of citation, and not alphabetically. All references must be numbered consecutively and all must be cited in the text. Use the style of the AMA publications, giving: name of author, title of article, name of periodical, volume, pages, year.

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All material which cannot be set in type, such as photographs, line drawings, graphs, charts, tracings (for preparation of tables, see below) must be mounted on white cardboard. All must be identified on the back as to figure number, author's name, and an arrow indicating top. Legends should be typed double spaced on a separate sheet of paper, limited to a maximum of 30 words.

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Photographic material should be submitted in duplicate as high contrast, glossy prints. Color illustrations will be accepted for publication only if the author assumes the cost.

THE JOURNAL will assume the cost of B/W engravings and cuts up to $35 (or 5 cuts). Engraving cost for illustrations in excess of $35 will be billed to the author.

Tables

Because tables are set by hand, their cost is comparable to illustrations. A reasonable number of tables are allowed without cost to the author.

Tables should be self-explanatory and should supplement, not duplicate, the text. Since the purpose of a table is to compare or classify related items, the data must be logically and clearly organized. The relationship and comparison are established by the correct choice of column heads (captions of vertical columns) and stubs (left entries in horizontal listings).

Each table should be typed double spaced, including all headings, on separate sheets of lettersize paper. Oversize paper should not be used. Instead, repeat heads and stubs on a second sheet for tables requiring extra width. Number tables consecutively. Each table must have a title.

Reprints

A reprint order form with a table covering cost will be sent with the galley proof to each contributor. Since the JOURNAL has no way to provide for reprints, they must be ordered by the author and purchased directly from the printer.

Is Your Hospital Vulnerable to IRS Audit?

Chances that your hospital's tax return will be audited by the Internal Revenue Service in the next year or two are greater than they have been in a long time.

Over the past five years, beginning in 1970, IRS audits of tax exempt organizations nearly have tripled, from 8,600 to 22,200. Although these available figures do not indicate specific types of tax exempt organizations subject to audit, our experience detects an unmistakable trend between this dramatic increase and the incidence of IRS examinations of hospitals.

Whether the trend has been spurred by legislative reform or internal administrative interest is academic. Only one practical and critically important question remains: Would *your* hospital be vulnerable in event of IRS audit?

To answer that question, it is helpful first to review the type of information commonly requested by Revenue agents during the course of an examination. Viewed broadly, their primary areas of concentration can be described as follows:

—*Administrative review,* to establish that activities of a hospital comply with those contained in the tax exemption letter issued by the IRS.

—*Income review,* to determine that hospital receipts are directly related to the exempt purpose of the organization.

—*Expenses review,* to establish that expenses are incurred for the direct benefit of the hospital with only indirect inurement to private parties.

—*Pension plan review,* and/or review of the tax shelter annuity program.

—*Payroll tax withholding review.*

Administrative Review

The law contains an extensive listing of organizations whose activities have been determined by Congress to be of such social import that they warrant immunity from federal income tax. Because hospital activities include a wide variety of essential social services, tax exemption conceivably could be granted on an independent basis for the separate functions involving patient care, medical research, and professional education.

Review of several exemption letters, however, reveals that these various activities commonly are consolidated by IRS and viewed as a single function constituting humanitarian or charitable endeavors. As such, hospitals are granted tax exemption under the provisions of the Internal Revenue Code Section 501 (c) (3), which—as one of its more significant benefits—permits a donor a tax deduction for contributions made to the organization.

IRS code regulations pertaining to this provision stipulate that two specific tests—the "Organizational Test" and the "Operational Test"—must be satisfied to gain and maintain tax exemption. Briefly, these two tests can be described as follows:

Organizational Test. An organization is "organized exclusively" for one or more exempt purposes only if its articles of organization: (a) limit the purpose of such organization to one or more purposes; and (b) do not expressly empower the organization to engage otherwise than as an insubstantial part of its activities, activities which in themselves are not in furtherance of one or more exempt purposes.

Operational Test. An organization will be regarded as "operated exclusively" for one or more exempt purpose only if it engages primarily in activities which accomplish one or more of such exempt purpose specified in Section 501 (c) (3). An organization will not be so regarded if more than an insubstantial part of its activities is not in furtherance of an exempt purpose.

To ascertain whether the hospital's activities are clearly established and in conformance with these two tests, an IRS agent normally will request copies of the hospital's articles of organization, by-laws, minute books of trustee meetings, and auditors' annual reports. Prevention of any unnecessary exposure in this area can be best accomplished by careful review of these documents and any other official record, making certain that they comply with the Internal Revenue Code provisions.

Income Review

In the area of hospital revenues, principal exposure most frequently involves those activities offered as a convenience to both patients and staff which do not relate directly to the exempt purpose of the organization. Examples: thrift and gift shops, cafeterias and coffee shops, parking lots and pharmacy operations. If any of these activities are profitable, the hospital will be deemed as involved in a trade or business producing "unrelated business income." This fact is significant, because organizations so deemed are subject to tax on income from these "unrelated" sources at the statutory rate applicable to corporations.

To mitigate against the impact of unrelated income,

it is important to remember one highly significant yet often overlooked factor: allocation of expenses to these sources of income. When determining the amount of unrelated business income, be certain to make a comprehensive allocation of hospital administrative expenses involved with those activities.

The law, in addition, permits combining of all unrelated business activities. Proper application, therefore, will permit the utilization of loss incurred in one class of unprofitable activity against the income generated by profitable operations.

Application of both of these techniques should have the effect of significantly reducing the tax imposed upon your hospital.

Expense Review

This major area of audit concentration involves the concept of private inurement. Under its broad classification, the examining agent will review the hospital's expenditures to determine whether third parties receive primary benefit as the result of certain hospital expenditures. Examples where private inurement could exist are: leasing of office space to doctors; furnishing of nursing and secretarial services to doctors; maintenance of a house officer's loan fund; and making available hospital facilities to doctors for private patient care on a no-fee basis. In cases where these situations do exist, revisions should be effected which provide for an arm's length fee to be charged for the services and facilities which are made available.

Pension Plan Review

Based on the sweeping revisions which resulted from enactment of the Employee Retirement Income Security Act of 1974, the hospital's deferred compensation plans should be carefully reviewed to assure compliance with this law. Although detailed discussion of its complex provisions is beyond the scope of this article, experience has shown that extensive plan revisions are required in order to assure compliance with this new piece of legislation.

Payroll Tax Withholding Review

Exposure in connection with withholding requirements most frequently involves special side agreements entered into with specialists such as anesthesiologists, pathologists and radiologists; the handling of training and research grants; and the payment of private duty nurses.

In many instances, the Internal Revenue Service has successfully advanced the position that certain specialized groups of physicians and private duty nurses are, in fact, employees of the hospital (as opposed to independent contractors) and, therefore, impose employment tax withholding requirements upon the hospital. If IRS determines that an employee relationship exists and the hospital has not withheld the appropriate taxes from the individual's wages, it can assess significant penalties for underpayment of withholding taxes.

Making available training grants and research support grants to members of the hospital staff involves still another area of exposure. The service in recent years has adopted a tougher posture with respect to these payments and in many cases has successfully argued that these payments constitute compensation for services rendered. As such, the hospital is required to include grant awards in the individual's annual statement of wages and withhold the appropriate payroll taxes.

To avoid the imposition of onerous underpayment penalties, we strongly recommend that the hospital's relationship with the various independent members of its staff be reviewed to determine whether, in fact, an employer-employee relationship exists.

The most common areas of vulnerability to tax audit and the basic measure your hospital should consider to avoid them are graphically summarized in the following table.

Area of Vulnerability	*Corrective Measure*
ADMINISTRATIVE REVIEW	
Conformance with Organizational and Operational tests	Careful review of Articles of Organization, By-Laws, trustee meeting minutes and auditor's annual reports to assure compliance with these provisions.
INCOME REVIEW	
Unrelated business income	Allocate expenses to these sources of income
EXPENSE REVIEW	
Private inurement to third parties	Provide for an arm's length fee for services and facilities rendered.
PENSION PLAN REVIEW	
Revisions from enactment of ERISA	Careful review of hospital's deferred compensation plans to assure compliance with revised law.
PAYROLL TAX WITHHOLDING REVIEW	
Special side agreements with medical specailists; handing of grants; payment of private duty nurses	Careful review of relationship with independent members of staff to determine if employer-employee relationship exists.

As even these cursory observations suggest, hospital exposure to IRS audit has increased significantly in recent years. The armamentaria of legal precedent and constrictive new provisions assembled by the Service should be regarded as formidable, requiring thorough review of hospital activities to assure compliance.

Month in Washington

Patient package inserts for almost all drugs, one of the major demands of the consumer movement, with their attending problems and concerns were discussed at a two-day symposium here recently. The session was sponsored by the AMA, the Drug Information Association, the Food and Drug Administration, and the Pharmaceutical Manufacturers Association.

The patient insert should not be confused with the package insert. Years ago, Congress approved the requirements for the package insert for prescription drugs, apparently in the mistaken belief much of this information would get to the patient. Most of it went to pharmacists; none was required to be given to patients.

There were hearings in the last Congress on legislation introduced in House and Senate aimed at providing patients, with certain exceptions, insert information on the prescription drugs they receive.

FDA Commissioner Alexander Schmidt, MD, told the symposium the consumer has a right to know about the medicine he is taking. "There is increasing evidence that a high proportion of Americans either do not understand the prescription instructions or do not follow them," Dr. Schmidt said. He contended there is a lack of effective communication often between physician and patient on drug information.

The information supplied patients must not be as detailed as the warnings required in advertising. This would be "an invitation to hypochondria," said Dr. Schmidt. Rather, the information should be in plain English, factual, and explain why the drug is being taken, major side-effects to watch out for, and when to report reactions to the physician.

William Barclay, MD, AMA Group Vice President for Scientific Publications, said carefully prepared information about selected drugs is desirable and could be of service to patients, physicians, and pharmacists. However, Dr. Barclay cautioned that there is a clear danger that the disclosure could be so alarming as to discourage use of drugs that are vitally needed.

One of the major questions to be answered is how the insert would be distributed. "Obviously, the physician would rather not have the responsibility of stocking in his office perhaps thousands of brochures," he said.

Of even greater importance, is the liability and other factors involved when physicians in certain cases for the sake of their patients either want no insert provided or want to suggest doses or other information that might run counter to the insert's material.

Dr. Barclay noted that labelling has had little effect on cigarette smoking. He also noted that one of the most powerful drugs available with all sorts of adverse reactions and addiction potential—alcohol—would not be covered by the patient insert.

John Adams, PhD, Vice President of the PMA, said non-prescription drugs contain far more patient informational material than the stronger prescription drugs. However, the patient package insert could cause severe strain on the physician-patient relationship, he said. "An adequate explanation of the risks and benefits might be impossible in a brief description."

Joseph Onek, Counsel for the Center for Law and Social Policy, said physicians don't have the time to tell their patients all they need to know about drugs. Patients forget anyway. He suggested that a priority list be made up for the inserts, starting with all drugs used in pregnancy, then tranquilizers and barbiturates.

The Social Security Administration is asking the public for help on how much information, including medical data, should be disclosed from Social Security records. "Social Security needs to change its regulation to make it conform with the Privacy Act, the Freedom of Information Act, and the new government in the Sunshine Act," a spokesman said.

"An important issue underlying these laws is the basic conflict between the public's right to know and the right of privacy of the people whose records are kept by Social Security," SSA Chief James Cardwell said. "We will need to resolve that conflict in our regulation, and we want the public's help."

Social Security said the revised regulation must address the basic information about an individual collected for purposes of administering the Social Security Act vs. interchange of such information with state or federal agencies to further efficient administration of other benefit programs, or to meet other governmental needs —a further concern is the public's right to know.

What personal information (including the Social Security number) should be disclosed by SSA without the consent of the individual in the following situations:

a. for entitlement or potential entitlement to other local/state/federal benefits or service;

b. for investigative or prosecution purposes.

Among other questions posed were, whether there should be limitations on disclosure of medical information to third parties and special procedures for disclosing medical information to the subject individual, and to make public fees paid to individual physicians, incorporated individual physicians, and other providers of medical services.

That medicine has had little to do with the improvement in mankind's health over the past several hundred years was the attention getting gist of the opening address theme of the annual meeting of the Institute of Medicine here.

There was some sharp disagreement with the speech by Thomas McKeown, MD, Professor of Medicine at the University of Birmingham, England, but Dr. McKeown insisted that "human health is determined mainly by way of life," not medical advances.

According to Dr. McKeown, the decline of mortality and growth of population started at the end of the 1600s, when farmers began a more scientific and diligent approach to producing crops. "This increase in food supplies between the end of the 17th century and the mid-1800s coincided with a substantial reduction of mortality from infectious diseases—and, it is suggested, was the main reason for it."

Powerfully supporting this progress was improved hygiene affecting the quality of food and water in the late 1800s, Dr. McKeown said. "The contribution of immunization and therapy has been recent and, over the whole period, relatively small."

The English physician said "that what is true for other living organisms is also true for man. Namely that health depends essentially on control of environmental influences, including those, which by his own behavior, the individual makes for himself."

Some institute members contended that Dr. McKeown was shortchanging the effect that immunizations and the post-1935 development of antibiotics, etc., have had on health. The speaker conceded that these have had a significant impact, but he said that in viewing huge population masses the new treatments do not loom large statistically in comparison with the general improvements in living conditions.

An analysis of the current burden of various illnesses in the United States based on use of medical services and facilities, loss of life and work time, was presented by Dorothy P. Rice, Director of the National Center for Health Statistics.

The rank order of categories of disease according to burden were: mental illness and handicap, respiratory diseases, ischaemic heart disease, bone and joint disease, accidents and suicide, and neoplasms.

The annual meeting concentrated on the state of treatment of schizophrenia, hypertension, and smoking and disease.

"Airplane pilots need stricter physician examinations because medically unfit airmen continue to endanger themselves and the public," claims the General Accounting Office (GAO) in a report to Congress.

Most of the criticism was directed at private pilot screening but the GAO said that even commercial pilot tests are often less thorough than those for military pilots, air traffic controllers, and foreign civilian pilots.

Better medical examination requirements would be especially helpful in singling out pilots with heart trouble, alcoholism and high blood pressure, the GAO said.

The report suggested there are some 23,000 private pilots "who may represent potential safety problems, including about 12,500 with records of driving (autos) while intoxicated and 200 with physical disabilities which prevent them from driving an automobile," said the GAO.

The GAO, an investigative agency for Congress, proposed that the Federal Aviation Administration be allowed to review data of the National Highway Administration on withdrawal or denial of drivers' licenses for pilots.

Most scheduled U. S. airlines have tougher medical checks than required by federal law, but there is no requirement that the airlines notify the government when pilots with FAA medical certificates flunk their airline physicals, according to the GAO.

The GAO report and the recent publication of several books questioning airline safety and pilot reliability may lead to Congressional hearings in 1977.

A National Academy of Sciences panel has called for a 10 per cent decrease in the ratio of hospital beds to population, claiming that a surplus of short-term, general care beds is contributing to higher medical costs. The panel said a national health planning goal should be to reduce the present ratio of 4.4 beds per 1,000 persons to 4.0 by 1981. This would be accomplished by curtailing hospital construction and closing down some existing hospital facilities.

Panel member John D. Thompson, of Yale University, estimates that about 50,000 hospital beds which are now either in use or slated for construction would have to be eliminated. He and the panel stressed the need for waiting periods for elective surgery as a way to increase hospital efficiency and occupancy rates.

The report sponsored by the Academy's Institute of Medicine also recommends shifting from the present system of retrospective cost reimbursement to a prospective rate-setting system. The report states the present third-party system "virtually guarantees the widespread development of excess bed capacity and encourages unnecessary and inappropriate treatment."

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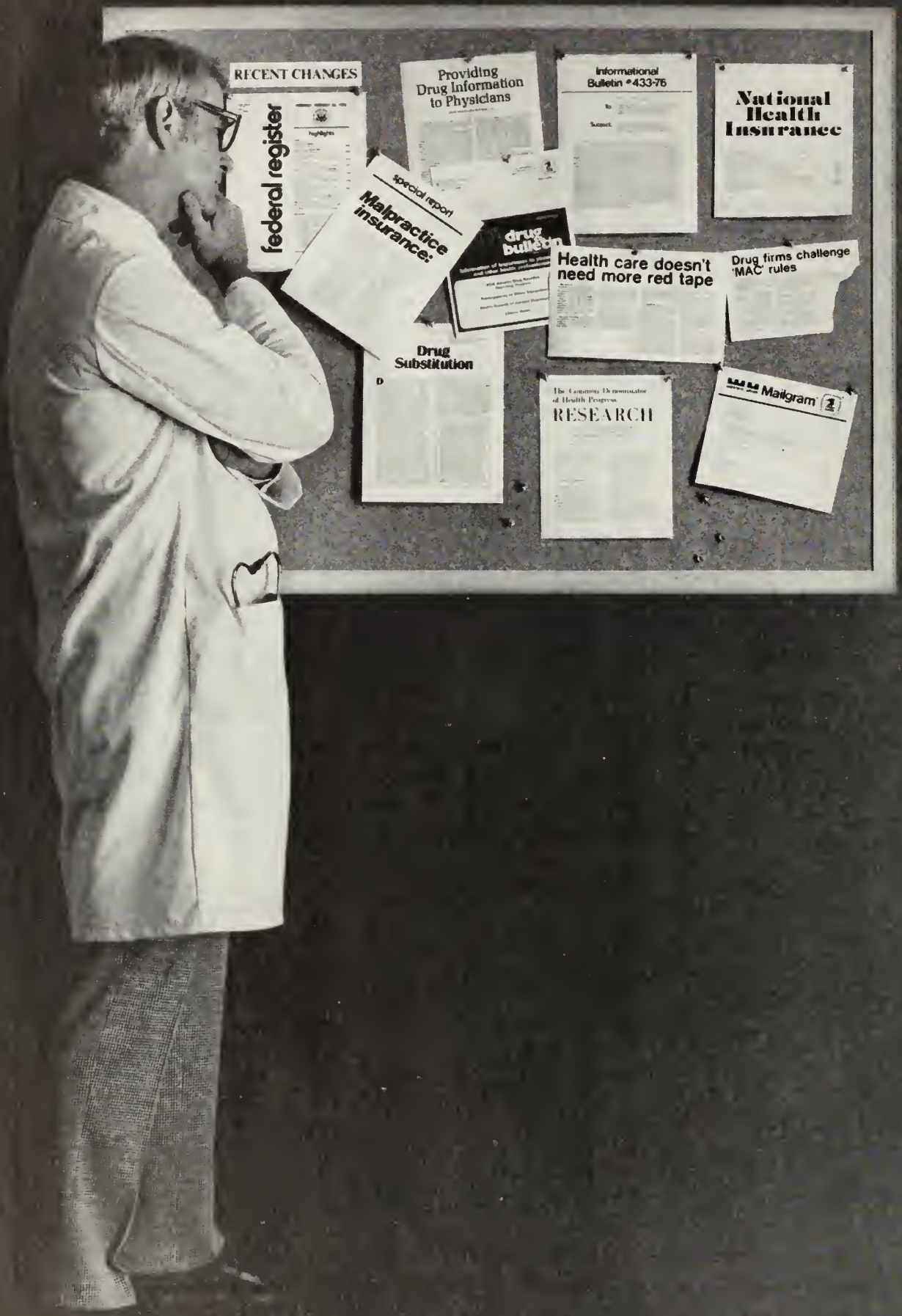
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THERE ARE A LOT OF PEOPLE GETTING BETWEEN YOU AND YOUR PATIENT.

Medicine today is in the spotlight, subjected to all kinds of scrutiny. Your control over patient therapy is being monitored, judged and occasionally abrogated, sometimes by unknown third parties.

The worry is that in the wake of this focus, the relationship between you and your patient will be weakened, without offsetting benefits. Consider three examples:

Drug substitution In most states, pharmacy laws, regulations or professional custom stipulate that your non-generic prescriptions be filled with the precise products you prescribe. But in the last five years, a dozen or more State laws have been changed, permitting the pharmacist in most cases to select a product of the same generic drug to fill any prescription.

Ironically, this dilution of physician control has taken place against a background of growing evidence that purportedly equivalent drug products may be inequivalent, since neither present drug standards nor their enforcement are optimal. In fact, the FDA itself says it has not enforced the same standards for hundreds of "follow-on" products that it had applied to the original NDA approvals. Thus physician control over patient therapy is being eroded with a risk that patients may be exposed to drugs of uncertain quality.

The major advertised claim for substitution is reduced prescription prices for consumers. Yet no documentation of any significant savings has been produced.

MAC Maximum Allowable Cost, MAC for short, is a Federal regulation designed to cut the Government's drug bill by setting price ceilings for drugs dispensed to Medicare and Medicaid patients. Unless the prescriber certifies on the prescription that a particular product is medically necessary, the Government intends to pay only for the cost of the lowest-priced, purportedly-equivalent, generally-available product. The effect of the program may be that elderly and indigent patients will be restricted to products which someone in Washington believes are priced right. Practicing doctors will have little to say about administration of the program, since Government will have absolute authority to make its choices stick.

The drug lag The future of drug and device research depends upon a scientific and regulatory environment that encourages therapeutic innovations. The American pharmaceutical industry annually is spending more than $1 billion of its own funds and evaluating more than 1,200 investigational compounds in clinical research. Disease targets include cancer, atherosclerosis, viruses and central nervous system disorders, among others. But there is a major barrier to the flow of new drugs to your patients: The cost of the research is more than ten times what it was, per product, in 1962; and whereas governmental clearance of new drug applications took six months then, it commonly consumes two years now.

The FDA needs adequate time, of course, to consider data. But it is equally clear that the present approval process contributes to needless delay of needed therapy. That's why the increased efficiency of the drug approval process is vital to all our futures.

If these issues concern you, we suggest that you make your voice heard—among your colleagues and your representatives in State legislatures and in Washington.

It could make a difference in your practice tomorrow.

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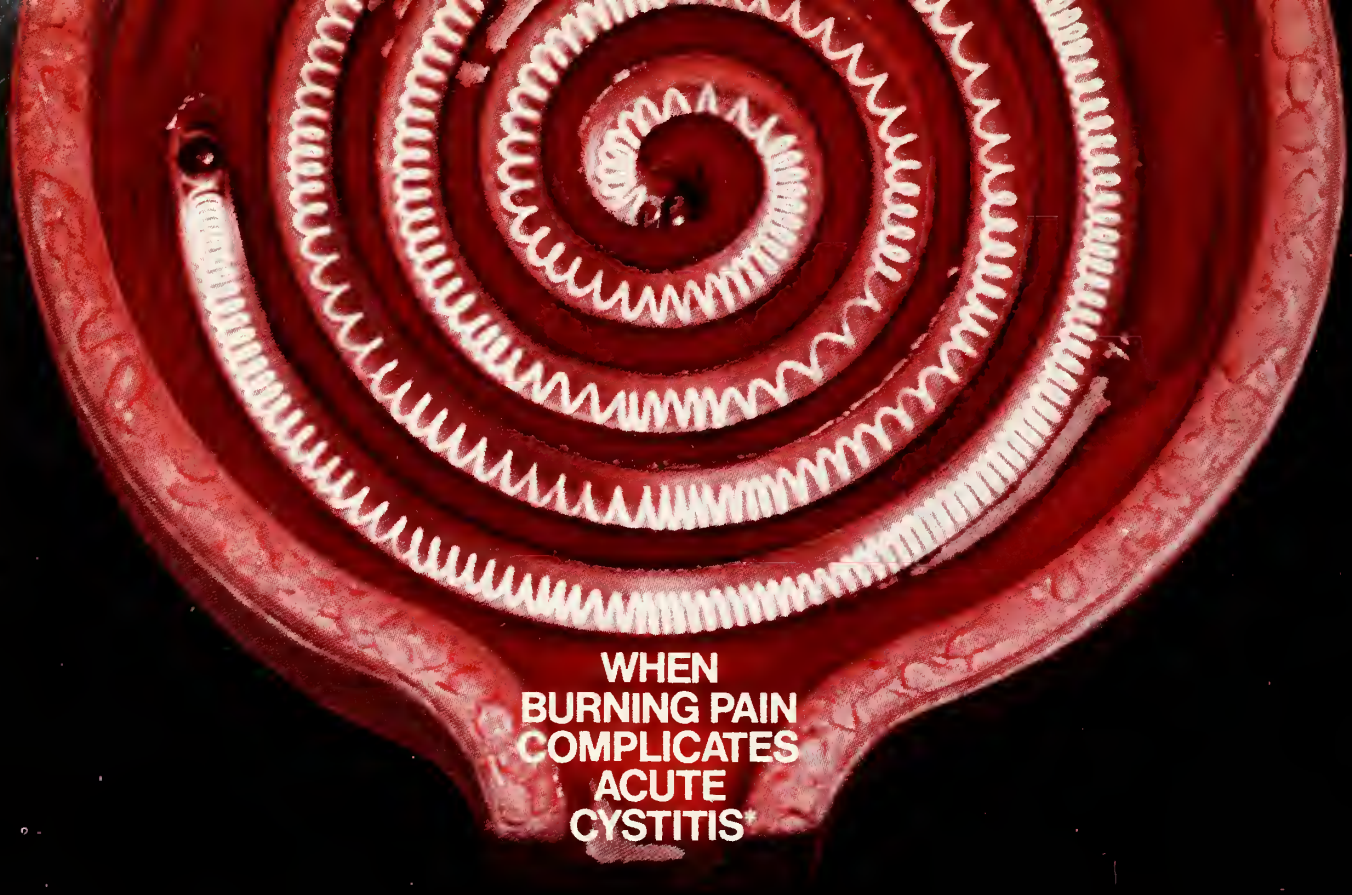

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Warnings: Safety during pregnancy not established. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported and early clinical signs (sore throat, fever, pallor, purpura or jaundice) may indicate serious blood disorders. Frequent CBC and urinalysis with microscopic examination are recommended during sulfonamide therapy.

Precautions: Use cautiously in patients with impaired renal or hepatic function, severe allergy, bronchial asthma; in glucose-6-phosphate dehydrogenase-deficient individuals in whom dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

Adverse Reactions: *Blood dyscrasias* (agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia); *allergic reactions* (erythema multiforme, skin eruptions, Stevens-Johnson syndrome, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis); *G.I. reactions* (nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis); *CNS reactions* (headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia); *miscellaneous reactions* (drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L. E. phenomenon). Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia. Cross-sensitivity with these agents may exist.

Dosage: Azo Gantanol is intended for the acute, painful phase of urinary tract infections. *Usual adult dosage:* 2 Gm (4 tabs) initially, then 1 Gm (2 tabs) B.I.D. for up to 3 days. If pain persists, causes other than infection should be sought. After relief of pain has been obtained, continued treatment with Gantanol (sulfamethoxazole) may be considered.

NOTE: Patients should be told that the orange-red dye (phenazopyridine HCl) will color the urine.

Supplied: Tablets, red, film-coated, each containing 0.5 Gm sulfamethoxazole and 100 mg phenazopyridine HCl—bottles of 100 and 500.

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* **WARNING**
This fixed combination drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual patient. If the fixed combination represents the dosage so determined, its use may be more convenient in patient management. The treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

* **Indications:** When the fixed combination represents the dosage determined by titration: Adjunctive therapy in edema associated with congestive heart failure, hepatic cirrhosis, the nephrotic syndrome. Corticosteroid and estrogen-induced edema, idiopathic edema; hypertension, when the potassium-sparing action of its 'Dyrenium' component is warranted.

Contraindications: Further use in progressive renal or hepatic dysfunction; hyperkalemia. Preexisting elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs. Routine use of diuretics in otherwise healthy pregnancy.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in severely ill patients with urine volume less than one liter/day, the elderly or diabetics, with suspected or confirmed renal insufficiency. Periodic determinations of serum K^+ should be made. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **The presence of a widened QRS complex or arrhythmia in association with hyperkalemia requires prompt additional therapy.** Thiazides are reported to cross the placental barrier and appear in breast milk; fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and other adverse reactions that have occurred in the adult may result. When used in pregnancy or in women who might bear children, weigh potential benefits against possible hazards to fetus. Adequate information on use in children is not available.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics, or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spironolactone is used concomitantly, determine serum K^+ frequently; both can cause K^+ retention and elevated serum K^+. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving Dyrenium® (triamterene, SK&F Co.), and leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with thiazides. Do periodic blood studies in cirrhotics to check for nondrug-related variations in blood pictures, and in patients with folic acid depletion, since 'Dyrenium' may contribute to appearance of megaloblastosis. Antihypertensive effect may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

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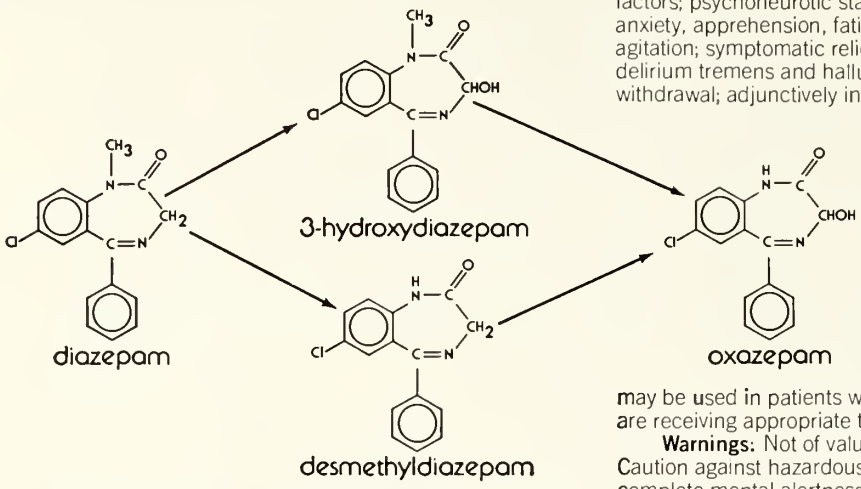
A pharmacokinetic character all its own



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Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

Usage in Pregnancy: **Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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Volume LXXVIII, Number 2—February, 1977

The JOURNAL of the KANSAS MEDICAL SOCIETY

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Indications—Lasix (furosemide) is indicated for the treatment of the edema associated with congestive heart failure, cirrhosis of the liver, and renal disease, including the nephrotic syndrome.

Hypertension—Lasix (furosemide) may be used for the treatment of hypertension alone or in combination with other antihypertensive drugs. Hypertensive patients who cannot be adequately controlled with thiazides will probably also not be adequately controllable with Lasix (furosemide) alone.

CONTRAINDICATIONS—Because animal reproductive studies have shown that Lasix (furosemide) may cause fetal abnormalities, the drug is contraindicated in women of childbearing potential. (See "Additional Information.")

Lasix (furosemide) is contraindicated in anuria. If increasing azotemia and oliguria occur during treatment of severe progressive renal disease, the drug should be discontinued. In hepatic coma and in states of electrolyte depletion, therapy should not be instituted until the basic condition is improved or corrected. Lasix (furosemide) is contraindicated in patients with a history of hypersensitivity to this compound.

Warnings—Excessive diuresis may result in dehydration and reduction in blood volume, with circulatory collapse and with the possibility of vascular thrombosis and embolism, particularly in elderly patients. Excessive loss of potassium in patients receiving digitalis glycosides may precipitate digitalis toxicity. Care should also be exercised in patients receiving potassium depleting steroids.

Frequent serum electrolyte, CO_2 and BUN determinations should be performed during the first few months of therapy and periodically thereafter, and abnormalities corrected or the drug temporarily withdrawn.

In patients with hepatic cirrhosis and ascites, initiation of therapy with Lasix (furosemide) is best carried out in the hospital. Sudden alterations of fluid and electrolyte balance in patients with cirrhosis may precipitate hepatic coma; therefore, strict observation is necessary during the period of diuresis. Supplemental potassium chloride and, if required, an aldosterone antagonist are helpful in preventing hypokalemia and metabolic alkalosis.

Patients should be observed regularly for the possible occurrence of blood dyscrasias, liver damage, or other idiosyncratic reactions.

In those instances where potassium supplementation is required, an oral liquid preparation should be used rather than enteric-coated potassium salts.

There have been several reports, published and unpublished, concerning nonspecific small-bowel lesions consisting of stenosis, with or without ulceration, associated with the administration of enteric-coated thiazides with potassium salts. These lesions may occur with enteric-coated potassium tablets alone or when they are used with nonenteric-coated thiazides, or certain other oral diuretics.

These small-bowel lesions have caused obstruction, hemorrhage, and perforation. Surgery was frequently required, and deaths have occurred.

Available information tends to implicate enteric-coated potassium salts, although lesions of this type also occur spontaneously. Therefore, coated potassium-containing formulations should be administered only when indicated and should be discontinued immediately if abdominal pain, distention, nausea, vomiting, or gastrointestinal bleeding occurs.

Patients with known sulfonamide sensitivity may show allergic reactions to Lasix (furosemide).

Precautions—As with any potent diuretic, electrolyte depletion may occur during therapy with Lasix (furosemide), especially in patients receiving higher doses and a restricted salt intake. Electrolyte depletion may manifest itself by weakness, dizziness, lethargy, leg cramps, anorexia, vomiting, and/or mental confusion.

Asymptomatic hyperuricemia can occur and gout may rarely be precipitated. Reversible elevations of BUN may be seen. These have been observed in association with dehydration, which should be avoided, particularly in patients with renal insufficiency.

When parenteral use of Lasix (furosemide) precedes its oral use, it should be kept in mind that cases of tinnitus and reversible hearing impairment have been reported. There have also been some reports of cases in which irreversible hearing impairment occurred. Usually, ototoxicity has been reported when Lasix (furosemide) was injected rapidly in patients with severe impairment of renal function at doses exceeding several times the usual recommended dose and in whom other drugs known to be ototoxic were often given. If the physician elects to use high dose parenteral therapy in patients with severely impaired renal function, controlled intravenous infusion is advisable (for adults, it has been reported that an infusion rate not exceeding 4 mg Lasix [furosemide] per minute has been used).

Increases in blood glucose, and alterations in glucose tolerance tests with abnormalities of the fasting and two-hour postprandial sugar have been observed, and rare cases of precipitation of diabetes mellitus have been reported.

Lasix (furosemide) may lower serum calcium levels, and rare cases of tetany have been reported.

Patients receiving high doses of salicylates, in conjunction with Lasix (furosemide) may experience salicylate toxicity at lower doses because of competitive renal excretory sites.

Diuretics such as furosemide may enhance the nephrotoxicity of cephaloridine. Therefore, Lasix (furosemide) and cephaloridine should not be administered simultaneously.

Sulfonamide diuretics have been reported to decrease arterial responsiveness to pressor amines and to enhance the effect of tubocurarine. Great caution should be exercised in administering curare or its derivatives to patients undergoing therapy with Lasix (furosemide), and it is advisable to discontinue Lasix (furosemide) for one week prior to any elective surgery.

Adverse Reactions—Various forms of dermatitis, including urticaria and rare forms of exfoliative dermatitis, erythema multiforme, pruritus, paresthesia, blurring of vision, postural hypotension, nausea, vomiting, or diarrhea.

Anemia, leukopenia, aplastic anemia, and thrombocytopenia (with purpura). Rare cases of agranulocytosis which responded to treatment.

In addition, the following rare adverse reactions have been reported; however, relationship to the drug has not been established with certainty: sweet taste, oral and gastric burning, paradoxical swelling, headache, jaundice, thrombophlebitis and emboli and acute pancreatitis.

Lasix (furosemide)-induced diuresis may be accompanied by weakness, fatigue, lightheadedness or dizziness, muscle cramps, thirst, increased perspiration, urinary bladder spasm, and symptoms of urinary frequency.

Dosage and Administration

ADULTS

The usual adult dose of Lasix (furosemide) is 20 to 80 mg given as a single dose.

If the diuretic response with a single dose of 20 to 80 mg is not satisfactory, the following schedule should be used: Increase this dose by increments of 20 or 40 mg not sooner than 6 to 8 hours after the previous dose until the desired diuretic effect has been obtained. This individually determined single dose should then be given once or twice daily. The dose of Lasix (furosemide) may be carefully titrated up to 600 mg per day in those patients with severe clinical edematous states.

With doses exceeding 80 mg/day and given for prolonged periods, careful clinical and laboratory observations are particularly advisable.

Hypertension—The usual dose of Lasix (furosemide) is 40 mg twice daily both for initiation of therapy and for maintenance. Careful observations for changes in blood pressure must be made when this compound is used with other antihypertensive drugs, especially during initial therapy. The dosage of other agents must be reduced by at least 50 percent as soon as Lasix (furosemide) is added to the regimen to prevent excessive drop in blood pressure. As the blood pressure falls under the potentiating effect of Lasix (furosemide), a further reduction in dosage, or even discontinuation, of other antihypertensive drugs may be necessary. It is further recommended, if 40 mg twice daily does not lead to a clinically satisfactory response, to add other hypotensive agents, e.g., reserpine, rather than to increase the dose of Lasix (furosemide).

INFANTS AND CHILDREN

Pediatric Administration: The usual initial dose of oral Lasix in infants and children is 2 mg/kg body weight, given as a single dose. If the diuretic response is not satisfactory after the initial dose, dosage may be increased by 1 or 2 mg/kg not sooner than 6 to 8 hours after the previous dose. Doses greater than 6 mg/kg body weight are not recommended.

For maintenance therapy in infants and children, the dose should be adjusted to the minimum effective level.

How Supplied—Lasix Tablets 40 mg (furosemide) supplied as white, round, monogrammed, scored tablets.

Lasix Tablets 20 mg (furosemide) supplied as white, oval, monogrammed tablets.

Note: Dispense in dark containers. Exposure to light may cause slight discoloration which, however, does not alter potency.

Additional Information

Toxicology

The acute toxicity of Lasix (furosemide) has been determined in mice, rats, and dogs. In all three animal species, the oral LD_{50} of Lasix (furosemide) exceeded 1000 mg/kg of body weight, while the intravenous LD_{50} ranged from 300 to 680 mg/kg. Intragastric injection of the drug in newborn rats resulted in an LD_{50} of 380 mg/kg.

The acute toxicity of high doses of Lasix (furosemide) was characterized by convulsions, paralysis, and collapse. Surviving animals often became dehydrated and depleted of electrolytes due to the diuresis induced by Lasix (furosemide). In the newborn rats, intragastric injection of the drug caused hyperactivity and anorexia.

Chronic toxicity studies with Lasix (furosemide) were done in rats and dogs. In a one-year study in rats, renal tubular degeneration occurred, with all doses higher than 50 mg/kg (4 times the maximal recommended human dose of 600 mg per day). A six-month study in dogs revealed calcification and scarring of the renal parenchyma at all doses above 10 mg/kg (83 percent of the maximal recommended human dose of 600 mg per day).

Reproductive Studies

The effects of Lasix (furosemide) on embryonic and fetal development and on pregnant dams were studied in mice, rats, and rabbits.

Lasix (furosemide) caused unexplained maternal deaths and abortions in the rabbit when 50 mg/kg (4 times the maximal recommended human dose of 600 mg per day) was administered between days 12 to 17 of gestation. In a previous study the lowest dose of only 25 mg/kg (2 times the maximal recommended human dose of 600 mg per day) caused maternal deaths and abortions. In a third study, none of the pregnant rabbits survived a dose of 100 mg/kg. Data from the above studies indicate fetal lethality which can precede maternal deaths.

The results of the mouse study and one of the three rabbit studies also showed an increased incidence of hydronephrosis (distention of the renal pelvis and, in some cases, of the ureters) in fetuses derived from treated dams as compared to the incidence in fetuses from the control group.

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Each 5 ml teaspoonful contains 32.5 mg theophylline, 6 mg ephedrine HCl, and 2 mg phenobarbital, the alcohol content is 15%.

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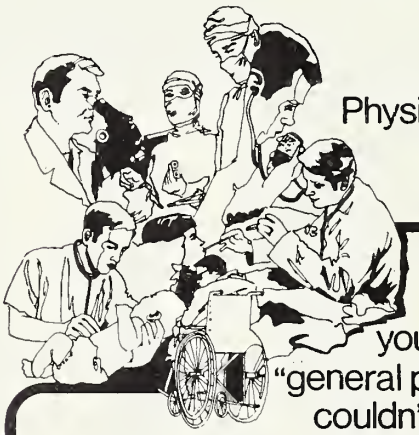

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The Fast Heart

Refractory Ventricular Tachycardia

BARRY L. MURPHY, M.D. *and* **MARVIN DUNN, M.D.,**
Kansas City, Kansas

Refractory ventricular tachycardia constitutes a difficult therapeutic problem. Nine patients with refractory ventricular tachycardia are presented in this report: one patient was controlled with high dose propranolol therapy; four were managed with antiarrhythmic drug combinations; one had left ventricular aneurysmectomy; and one had thoracic sympathectomy to control the arrhythmia. Two patients with severe left ventricular dysfunction were not controlled, and both died. Refractory ventricular tachycardia can be controlled by using maximal drug dosages, drug combinations, or cardiac surgery. Severe left ventricular dysfunction adversely affects management of the arrhythmia and long term prognosis.

ACUTE EPISODES of ventricular tachycardia are usually controlled by intravenous administration of lidocaine hydrochloride and by direct current electrical countershock.[1] Recurrent ventricular tachycardia often fails to respond to this straight-forward approach, and more complicated medical management is required. A rational approach to treatment requires a familiarity with the disorder and with therapeutic options, and compels adherence to certain principles of management. The following data illustrate these points.

Materials and Methods

Nine patients with refractory ventricular tachycardia who demonstrated management problems form the basis for this report. Four patients had arteriosclerotic heart disease; one had hypertensive cardiovascular disease and sinus node dysfunction; one had a nonspecific cardiomyopathy; and three had no organic heart disease. Ventricular tachycardia was sustained in five and paroxysmal in four patients. Congestive heart failure was present in five patients and was severe in two. Although these patients were receiving digoxin, there was no clinical evidence of digitalis toxicity, and blood levels of digoxin were within normal limits. Electrolyte imbalance, hypoxia, and arrhythmogenic drugs were excluded as the cause for the ventricular tachycardia in each instance. Of the nine patients, six experienced dizziness or syncope, two had angina, and in three exacerbation of heart failure was noted. The abnormal physical signs were a result of an atrioventricular dissociation and included variation in peak systolic blood pressure, intermittent cannon waves in the jugular pulse, changing intensity of the first heart sound, and diastolic sounds of varying intensities.

The criteria for the diagnosis of ventricular tachycardia were the presence of ectopic beats in multiples

of 3 or more at a rate greater than 100 beats/minute, atrioventricular dissociation, fusion or capture beats, and ventricular ectopic beats of the same wave form during sinus rhythm. Three patients had His bundle electrograms that confirmed the diagnosis. Atrial arrhythmias were noted in four patients at some point in their clinical courses.

Results

None of the patients responded to a regimen of lidocaine or to the usual doses of quinidine sulfate or procainamide hydrochloride, even when therapeutic blood levels were attained. The final management and the duration of followup are reviewed in *Table I.*

One patient was successfully treated by using large amounts of propranolol hydrochloride, three were controlled by means of multiple drug therapy using quinidine or procainamide in combination with propranolol or diphenylhydantoin sodium, and one patient was maintained on a regimen of quinidine and ephedrine sulfate. One patient was successfully managed with left ventricular aneurysmectomy and aorta-coronary bypass, and one responded to cervical and upper thoracic sympathectomy. Satisfactory control of the arrhythmia in two patients who were in severe intractable heart failure, was never accomplished, and both died. The successfully treated patients have been followed from six months to four years.

The following representative cases are presented to illustrate some of the principles and difficulties of management.

TABLE I

MANAGEMENT AND FOLLOW-UP OF PATIENTS WITH VENTRICULAR TACHYCARDIA

Heart Disease	*Successful Regimen*	*Comment and Prognosis*
None	Propranolol, 560 mg/day	4 yrs
ASHD	Procainamide, 8 gm/day Propranolol, 40 mg/day	3 yrs
ASHD	Quinidine Gluconate, 3 gm/day Propranolol, 240 mg/day	18 mos
HCVD	Procainamide, 3 gm/day Diphenylhydantoin, 300 mg/day	6 mos
None	Quinidine, 1.2 gm/day Ephedrine, 100 mg/day	4 yrs
ASHD	Aneurysmectomy, Aorto-Coronary Bypass, Quinidine Gluconate, 1 gm/day	9mos
None	Sympathectomy Diphenylhydantoin, 300 mg/day	3 yrs
Cardiomyopathy	None	Severe Myocardial Disease
ASDH	None	Severe Myocardial Disease

ASHD = Arteriosclerotic heart disease.
HCVD = Hypertensive cardiovascular disease.

Case Reports

A 71-year-old man developed ventricular tachycardia with a subendocardial infarction, and was transferred to the University of Kansas Medical Center. He had been briefly hospitalized at another hospital, where he was treated with lidocaine and procainamide (8 gm/day), propranolol (40 mg/day), digoxin (.25 mg/day). He has been free of ventricular tachycardia for four years, except when he failed to take his medication appropriately. After he developed the lupus erythematosus syndrome from the procainamide, quinidine was substituted.

A 51-year-old man developed recurrent ventricular tachycardia with syncope four years after he had experienced an anterolateral myocardial infarction. He was treated with quinidine, but ventricular angiogram and coronary arteriography showed a ventricular aneurysm and major obstructive lesions of the left main, left anterior descending, and obtuse marginal coronary arteries. The right coronary artery was completely occluded. After aneurysmectomy and aorta-coronary bypass were performed, the patient experienced no recurrence of ventricular tachycardia. Quinidine regimen was reinstituted after the patient developed several episodes of atrial flutter in the postoperative period.

A 49-year-old woman had the sudden onset of paroxysmal ventricular tachycardia and syncope. She received lidocaine in sufficient amounts to cause convulsive seizures without affecting the arrhythmia. Procainamide, diphenylhydantoin, digoxin, magnesium sulfate, and atrial and ventricular pacing all failed to control the arrhythmia. Quinidine reduced the frequency of the episodes of ventricular tachycardia but produced hepatotoxicity. Propranolol produced intolerable hypotension. Cardiac catheterization and coronary arteriography findings were normal. Bilateral upper thoracic

TABLE II

THERAPY FOR REFRACTORY VENTRICULAR TACHYCARDIA

- Antiarrhythmic drugs
  - Maximal dosage
  - Combinations
  - Digitalis, vasopressor agents
- Atrial or ventricular pacing
- Surgery
  - Sympathectomy
  - Aneurysmectomy
  - Coronary revascularization

sympathectomy was performed, which relieved the ventricular tachycardia for six weeks, after which the patient suffered a recurrence that was controlled with diphenylhydantoin. The recurrent ventricular prematurities were successfully managed by the addition of hydroxyzine hydrochloride to the patient's management.

A 48-year-old man developed ventricular tachycardia late in the course of a hospitalization for an acute inferior myocardial infarction. He was transferred to the University of Kansas Medical Center after a 10-week course of ventricular tachycardia. The patient's electrocardiogram at the time of admission showed broad complexes with a right bundle branch block configuration and with a heart rate of 140 beats/minute *(Figure 1)*. Independent atrial activity was present at a slower rate. Shortly after admission, a His bundle electrogram confirmed the presence of ventricular tachycardia.

The patient did not respond to treatment with lidocaine. Because the administration of quinidine did not initially prove effective, diphenylhydantoin was added to the regimen. Blood level of the drugs was monitored as the quinidine dose was being increased. With higher doses, the patient developed low cardiac output, oliguria, prerenal azotemia, and hyperkalemia. While thus intoxicated with quinidine and potassium, the patient's cardiac output converted to sinus rhythm for a brief period *(Figure 2)*. After he recovered, procainamide alone and in combination with ventricular pacing was ineffective in aborting the arrhythmia. Intra-aortic balloon counterpulsation was also ineffective.

Cardiac catheterization findings demonstrated severe left ventricular dysfunction with an ejection fraction of only 6 per cent. No discrete aneurysm was identifiable. There was severe diffuse coronary artery disease with proximal occlusion of a dominant circumflex coronary artery. After failure of medical therapy, infarctectomy and aorta-coronary bypass procedures were considered. However, before the operation could be undertaken,

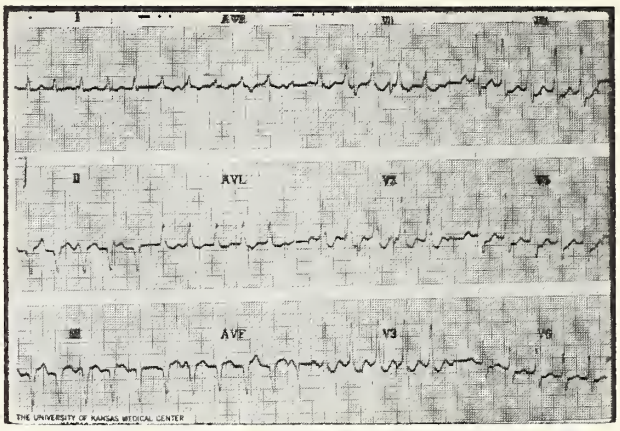

Figure 1. Electrocardiogram demonstrating ventricular tachycardia at the time of admission to the hospital.

the patient suffered an asystolic cardiac arrest and died. By the time of his death, he had suffered over three months of ventricular tachycardia. In this instance, the severe myocardial disease limited both the therapy and the outcome.

Discussion

Antiarrhythmic drugs form the basis of any therapeutic program for the management of refractory ventricular tachycardia, and failure of these drugs is often due to administration of inadequate amounts. Since the effect of propranolol in membrane responsiveness and refractory period occurs at a much higher concentration than its B-blocking effect,[2] it is not surprising that high doses of this agent may be required to manage arrhythmias. There is a small range between therapeutic and toxic doses of quinidine and procainamide; therefore, high doses and high serum concentrations may be hazardous.

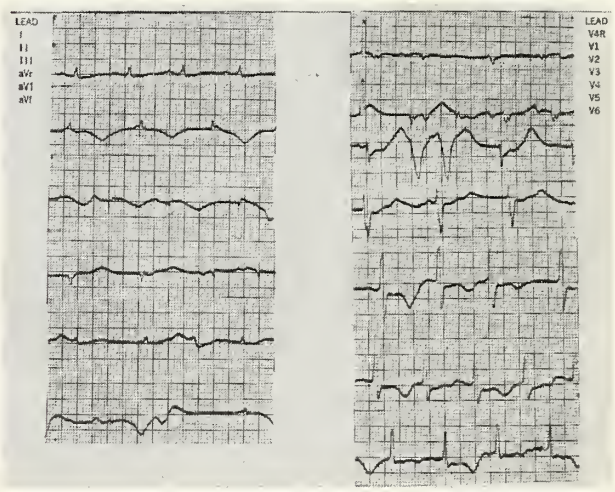

Figure 2. Electrocardiogram at the time of quinidine and potassium intoxication.

Since the efficacy of antiarrhythmic drug treatment is related to the achievement of therapeutic blood levels, measurement of blood levels of the medication is necessary, but total reliance cannot be placed on these measurements. In this series, important toxic effects of quinidine occurred in one patient whose blood level was within the therapeutic range, whereas another patient required twice the maximal therapeutic concentration of procainamide to control his arrhythmia, and had no clinical or electrocardiographic evidence of procainamide intoxication.

Combinations of antiarrhythmic drugs may act in a synergistic manner.[3] Quinidine or procainamide, in combination with propranolol or diphenylhydantoin, offers the greatest safety and therapeutic potential. Since their electrophysiologic properties differ, therapeutic efficacy may be enhanced without additive toxic effects.

Exercise abolished the ventricular tachycardia in one patient who was receiving quinidine. Ephedrine was added to simulate the catecholamine response of exercise, and the combination was successful in controlling the arrhythmia.

Although atrial and ventricular pacing has been used to control ventricular tachycardia, it was not successful when attempted in the two patients in this series. The rhythm could be captured, but the rate could not be lowered below the inherent rate of the arrhythmia.

Sympathectomy has been reported as effective in some patients,[4] and was partially effective in one patient. Since propranolol produces a similar effect, it has largely supplanted sympathectomy in arrhythmia management. Sympathectomy is indicated only in cases in which the patient is refractory to all medications and electrical therapy, and cannot tolerate therapeutic doses of propranolol.

Intractable ventricular tachycardia is an indication for ventricular aneurysmectomy.[5, 6] In most series, the operation has been effective. The operation carries a mortality risk of 5-30 per cent and, therefore, should not be undertaken unless there is failure of medical management. In our patient, an aorta-coronary bypass and an aneurysmectomy were performed at the same time. According to some reports,[7] coronary revascularization alone has been effective in treating arrhythmias. The assumed mechanism is either increased oxygenation, infarction of an irritable focus, or re-entry pathway.

No recent data regarding prognosis in ventricular tachycardia is available. The one-year mortality rate from the two most recent series was over 50 per cent.[8, 9] Although the prognosis in patients without organic heart disease has been considerably better, their problem may not be altogether benign.[8–10] In our series of patients, two out of the nine patients died, suggesting that if control of the arrhythmia can be established with a satisfactory regimen, the prognosis may be reasonably good. Severe myocardial disease was the most significant factor auguring a poor prognosis.

Summary

HEART DISEASE	SUCCESSFUL REGIMEN	COMMENT AND PROGNOSIS
NONE	PROPRANOLOL, 560 MG/DAY	4 YEARS
ASHD	PROCAINAMIDE, 8 GM/DAY PROPRANOLOL, 40 MG/DAY	3 YEARS
ASHD	QUINIDINE GLUCONATE, 3 GM/DAY PROPRANOLOL, 240 MG/DAY	18 MONTHS
HCVD	PROCAINAMIDE, 3 GM/DAY DIPHENYLHYDANTOIN, 300 MG/DAY	6 MONTHS
NONE	QUINIDINE, 1.2 GM/DAY EPHEDRINE, 100 MG/DAY	4 YEARS
ASHD	ANEURYSMECTOMY, AORTO-CORONARY BYPASS QUINIDINE GLUCONATE, 1 GM/DAY	9 MONTHS
NONE	SYMPATHECTOMY DIPHENYLHYDANTOIN, 300 MG/DAY	3 YEARS
CARDIOMYOPATHY	NONE	SEVERE MYOCARDIAL DISEASE
ASHD	NONE	SEVERE MYOCARDIAL DISEASE

THERAPY FOR REFRACTORY VENTRICULAR TACHYCARDIA

- ANTIARRHYTHMIC DRUGS
  - MAXIMAL DOSAGE
  - COMBINATIONS
  - DIGITALIS, VASOPRESSOR AGENTS
- ATRIAL OR VENTRICULAR PACING
- SURGERY
  - SYMPATHECTOMY
  - ANEURYSMECTOMY
  - CORONARY REVASCULARIZATION

In the treatment of refractory ventricular tachycardia, drug therapy must be optimized by using maximal therapeutic doses and drug combinations. Although atrial or ventricular pacing may be helpful, it

(Continued on page 69)

Malignant Hypercalcemia

Treatment with Thyrocalcitonin and Mithramycin

JOHN S. ADAMS, M.D. *and* **CHARLES R. HARTMAN, M.D.**
Kansas City, Kansas

Reported is a case of malignant hypercalcemia secondary to primary parathyroid hyperplasia, refractory to conventional treatment with normal saline infusion and high dose furosemide administration. However, combination therapy with salmon thyrocalcitonin and mithramycin produced a marked and sustained decrease in the serum calcium concentration. Necropsy demonstrated calcium deposition in the lungs, kidneys, and myocardium.

PHYSICIANS' armamentarium for combatting malignant hypercalcemia, until the recent past, has been limited to the use of saline infusion in combination with a calciuretic agent (*i.e.,* furosemide, ethycrinic acid) and intravenous phosphate administration. The purpose of this report is to outline the use of thyrocalcitonin and mithramycin in a patient with malignant hypercalcemia secondary to primary hyperparathyroidism, and describe the associated pathological consequences of the hypercalcemia.

Case Report

A 53-year-old white male construction worker was evaluated for progressive ataxia, anorexia, weight loss, and lethargy of three weeks' duration. The patient was taking no medication prior to or during his illness, and there was no history of excessive ingestion of vitamin D, dairy product, or bicarbonate. Physical examination demonstrated an emaciated, dehydrated, obtunded male with Cheyne-Stokes respirations. The pulse was 80 beats/min; blood pressure, 120/80 mm Hg; temperature 99.4 F (37.3 C). The remainder of the physical examination revealed only gross truncal ataxia and slightly hyperactive deep tendon reflexes bilaterally. Significant laboratory values on admission included: serum calcium, 18 mg/100 ml (normal 9-11 mg/100 ml); phosphorus, 4 mg/100 ml (normal 3-4.5 mg/100 ml); BUN, 31 mg/100 ml (normal 10-20 mg/100 ml); creatine, 1.8 mg/100 ml (normal 1-1.5 mg/100 ml); serum magnesium, 1.8 mg/100 cc (normal 2-3 mg/100 cc); alkaline phosphatase, 6.7 Bodansky units/100 ml (normal 2-4.5 units); true thyroxin, 8.1 mg/ml (normal 5-11 mg/ml).

Results

The treatment of this patient's hypercalcemia was initiated with normal saline infusion at a rate of 400 ml/hr. After initial rehydration, vigorous forced diuresis was induced by infusing i.v. 80 mg furosemide every two hours. Despite twelve hours of intense diuretic therapy, the patient demonstrated no clinical improvement and the serum calcium concentration remained greater than 16 mg/100 ml *(Figure 1)*. Synthetic salmon thyrocalcitonin (Calcimar, Armour) 400 mrc units was then administered subcutaneously at six-hour intervals. This was followed by an abrupt drop in the pa-

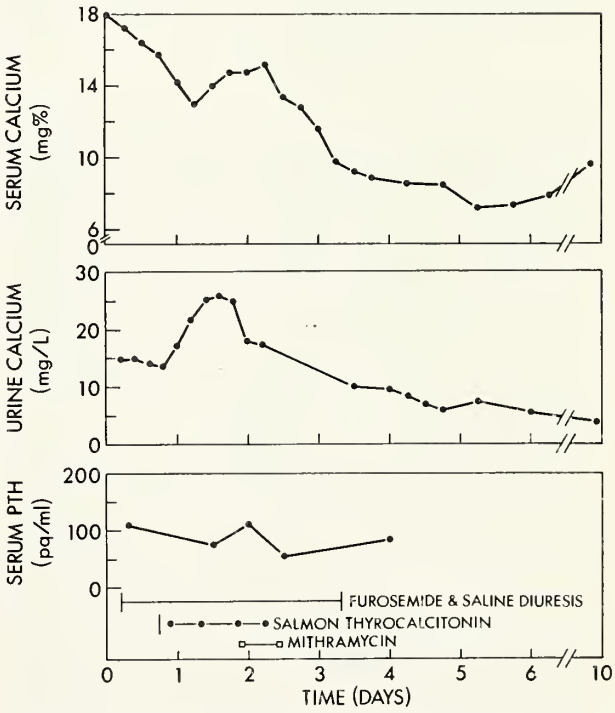

Figure 1. Serial serum calcium, urine calcium, and parathyroid hormone concentrations during hypercalcemic management.

From the Department of Medicine, KUMC, Kansas City, KS 66103.

tient's serum calcium levels and a marked calciuresis. However, as has been previously noted,[1] the thyrocalcitonin-induced hypocalcemic effect was short-lived, and despite repeated thyrocalcitonin administration, the serum calcium concentration again rose to above 15 mg/100 ml. Thirty hours into the therapeutic course, mithramycin 25 μg/kg body weight was given intravenously at eight-hour intervals. Two doses of mithramycin produced a sharp reduction in the serum calcium level and a significant decrease in the urinary excretion of calcium *(Figure 1)*, suggesting a mithramycin-mediated, rapid, and efficient decrease in the mobilization of calcium from bone. The reduction in both serum and urinary concentrations of calcium persisted to the patient's demise. The patient developed an overwhelming pseudomonas pneumonia, acute renal failure, and succumbed to a cardiac death on the tenth hospital day.

Autopsy disclosed the presence of primary parathyroid hyperplasia. It is interesting to note that, despite the presence of parathyroid hyperplasia, the patient's parathyroid hormone levels were within normal limits (normal: under 200 pg/ml) throughout the hospital course *(Figure 1)*. Although unusual, about 10-20 per cent of hyperparathyroid patients will have normal parathyroid hormone values.[2] Autopsy on this patient showed intense calcium deposition in the lung parenchyma *(Figure 2)*, kidneys and myocardium, and the condition may have predisposed this patient to an opportunistic pseudomonas pneumonia, and contributed to renal and myocardial dysfunction.

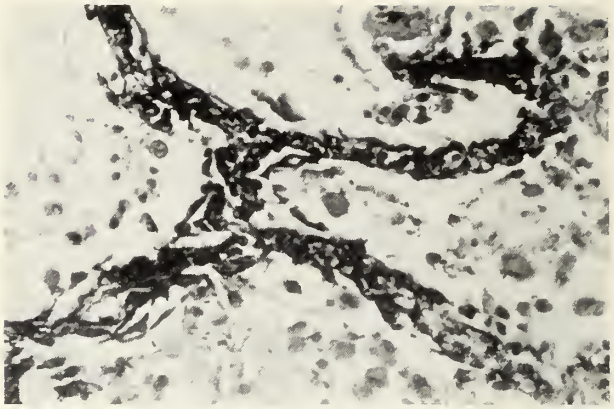

Figure 2. Micrography demonstrating dense calcium deposition within the lung parenchyma.

Discussion

The approach to the acute management of malignant hypercalcemia should always begin with hydration of the patient with normal saline solution, in an attempt to establish an initial natriuretic and calciuretic response. If the degree of hypercalcemia is life threatening, or if renal failure is a consideration, then forced diuresis with a "loop" diuretic (*i.e.* furosemide, ethycrinic acid) will further inhibit sodium and calcium reabsorption in the distal renal tubule.[3]

Intravenous infusion of phosphate and EDTA (ethylenediaminetetraacetic acid), a chelator of calcium ion, have been employed in the treatment of malignant hypercalcemia, but both of these modalities are associated with significant morbidity even when used in suggested therapeutic dosages. The use of corticosteroids in the treatment of malignant hypercalcemia is mentioned only to emphasize that they should not be depended upon for reliable emergency management of hypercalcemic crisis unless the milk alkali syndrome is present. Although corticosteroids may well have some effectiveness in preventing the mobilization of calcium from bone, their major function is to inhibit the intestinal absorption of calcium.

If the induction of sodium and calcium diuresis employing saline infusion and furosemide or ethycrinic acid fails, then thyrocalcitonin therapy with 250-400 mrc units synthetic salmon calcitonin every four-six hours may be initiated until an adequate hypocalcemic response is obtained. Thyrocalcitonin exerts its hypocalcemic effect by decreasing bone resorption.[4] Silva and Becker[1] have convincingly demonstrated thyrocalcitonin to be effective in reducing serum calcium concentrations from a dangerously high to a tolerable range. Although the hypocalcemic action of thyrocalcitonin is usually transient, it may afford time for more definitive therapy.

As was the case with this patient, if attempts at calciuresis fail, and if the hypocalcemic effects of thyrocalcitonin cannot be sustained, then mithramycin therapy may be initiated. Mithramycin is an antimetabolite formerly used in the treatment of testicular tumors. Mithramycin acts directly on the osteoclast to inhibit bone resorption. The drug's direct cytotoxic action on the osteoclast, mediated through inhibition of DNA-dependent RNA synthetase,[5] makes it an ideal agent for countering parathyroid hormone-mediated osteoclastic activity. It has been shown that one or two doses of mithramycin at 25 μg/kg body weight can significantly decrease markedly elevated serum calcium levels and maintain that response for a prolonged period.[2] Moreover, mitramycin lowers serum calcium levels without parallel increases in urinary calcium excretion, thus preventing a transient period of high levels of circulating calcium ion that may predispose to deposition of calcium salts in vital organs.

(Continued on page 78)

Child Abuse and Neglect

Epidemiology in Kansas

LILLIAN GONZALEZ-PARDO, M.D.,* *Kansas City, Kansas*
and **MARY THOMAS, M.S.W.,†** *Topeka*

CHILD ABUSE and neglect is a disease of society and accounts as one of the leading causes of death in children. The statistical data of suspected child abuse and neglect is alarming. On a nationwide basis, the data from California and Colorado[1] (when extrapolated) yield a conservative estimate of 200,000 to 250,000 children in the United States annually in need of protective services, of whom 30,000 to 37,500 may have been badly injured.

All physicians serving children have a clear responsibility to be aware of, recognize and properly manage any child who has been the victim of abuse and neglect. Only with increased awareness and understanding can early prevention, diagnosis, and treatment measures be instituted.

This study was undertaken to determine the distribution and extent of the problem of child abuse and neglect in Kansas. Before any extensive program in prevention, education and rehabilitation can be instituted, the epidemiological characteristics have to be determined.

The data was compiled from mandated reports to the Social Rehabilitation Services (SRS) in the Topeka central office, of all reports of suspected child abuse and neglect made to the juvenile court or the local SRS offices. The data is recorded on a monthly and cumulative basis and is accurate so far as reports received in the central office are concerned. This data has been collected since July 1, 1972, when the first reporting law to SRS was effective.

Results of Study

Incidence Rate

In the state of Kansas, 13,546 cases of suspected child abuse and neglect were reported over a 42-month period from July 1972 to December 1975, yielding an annual rate of 1,756 cases/million population/year. The incidence rate varied widely among counties. (Incidence rate for all counties available on request.) *Table I* shows ten counties with the highest incidence rate. Ten counties with the lowest incidence rate are shown in *Table II*.

This study identifies the high-risk and low reporting areas, the suspected perpetrators or abusers, the initial reporters of suspected cases, and the types of abuse and neglect. Any planned or presently existing programs in the area of prevention, diagnosis and management, be it governmental, volunteer groups or private organizations, should consider the epidemiologic characteristics and determine how a particular area may best be helped.

Type of Child Abuse and Neglect

Since the term "battered child syndrome" was coined in 1961, the definition has been broadened considerably. It now includes any condition, inflicted by parents, guardians and other caretakers, or resulting from their lack of reasonable care and protection, that is injurious to the child's physical or emotional health.

Figure 1 shows the types of physical abuse and the frequency of occurrence in the different age groups as reported over a one-year period for fiscal year 1975. Bruises and welts occurred in 43 per cent of all physical abuse. In infants under age 1 year, skull fractures and other long bone injuries occurred with greater frequency than in all other age groups.

Figure 2 shows the forms of neglect of the reported cases during the same time. More than one type of neglect was reported for some children. Inadequacy of supervision, environment, food, clothing, and hygiene occurred in 70 per cent of cases of neglect.

There were 2,521 boys and 2,228 girls who were the victims of suspected abuse and neglect from July 1974 to July 1975, in 91 cases the sex was not indicated in the report.

* Assistant Professor in Pediatrics and Neurology, KUMC, Kansas City, KS 66103.

† Family, Preventive and Protective Services Unit, Division of Children and Youth, Social Rehabilitation Services, Topeka, KS 66612.

TABLE I

INCIDENCE OF SUSPECTED CHILD ABUSE AND NEGLECT
TEN HIGHEST FREQUENCY

County	*Number/10,000 Pop./1 Year*	*TP+**
1. Ford	41.37	22,587
2. Atchison	38.31	19,165
3. Cherokee	35.00	21,549
4. Wyandotte	29.70	186,845
5. Pratt	29.42	10,056
6. Linn	27.95	7,770
7. Brown	26.65	11,685
8. Doniphan	26.03	9,107
9. Scott	25.48	5,606
10. Johnson	24.90	217,662

* TP = Total population.
\+ = 1970 U.S. Census Population Report for Kansas.

TABLE II

INCIDENCE OF SUSPECTED CHILD ABUSE AND NEGLECT
TEN LOWEST FREQUENCY

County	*Number/10,000 Pop./Year*	*TP**
1. Kingman	0	8,886
Greeley	0	1,819
2. Stanton	0.17	2,287
3. Hamilton	0.25	2,747
4. Morton	0.80	3,576
5. Hodgeman	1.07	2,662
6. Trego	1.28	4,436
7. Washington	1.55	9,246
8. McPherson	1.60	24,778
9. Russell	1.80	9,428
Ellis	1.80	24,730
10. Rawlins	1.93	4,393

* TP = Total population.

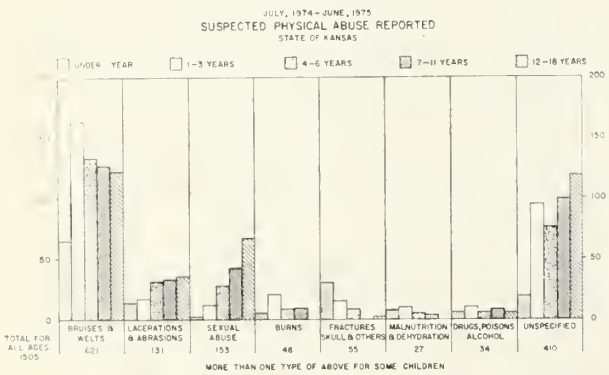

Figure 1. Types of physical abuse in different age groups.

Initial Reporters of Suspected Cases

Kansas law requires reporting of suspected child abuse and neglect to the juvenile court of the county in which such occurs; physicians, nurses, social workers, school personnel, and law enforcement agencies are mandated to file reports; all others (relatives, neighbors, friends) can file a report if they have reason to believe a child has been abused or neglected.

In the state of Kansas, 4,840 cases of suspected child abuse and neglect were filed by 2,321 reporters over a one-year period for fiscal year 1975. *Table III* shows the initial reporters and the frequency in which such a report is made by each group. Relatives, neighbors, and social workers constitute the three most frequent reporters. Physicians rank 10th in filing the reports, which constitutes 5 per cent of the total groups reporting.

Relationship of Suspected Perpetrator to Child

Table IV shows the suspected perpetrator of child abuse and neglect, 88 per cent of whom are parents. Other relatives are siblings, aunts, uncles, cousins, grandparents, and brothers-in-law. Of non-relatives, 8 per cent were inflicted by boyfriends, babysitters, foster parents, neighbors, and some school personnel.

Mortality and Morbidity

Of 1,505 children inflicted with physical injury, seven died between July 1974 and June 1975 as a direct result of the injury; twenty-one died from inflicted injuries during the period of July 1975 to June 1976. The number of fatalities tripled in the succeeding year.

The morbidity in terms of brain damage, mental retardation, emotional and psychological damage, and social maladjustment is not known.

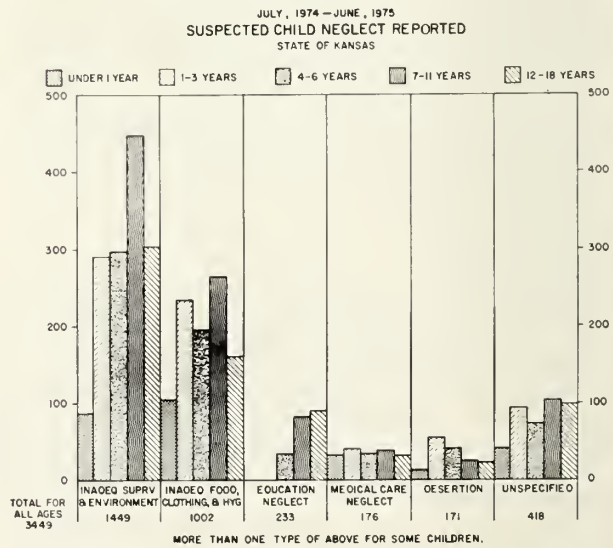

Figure 2. Types of neglect in different age groups.

Discussion

Although the Kansas reporting law (K.S.A. 1975 supplement 38-716-724) mandates certain persons to report if they have reason to suspect a child is abused or neglected, compliance with the law is not absolute. For this reason, the data obtained, undoubtedly, do not reflect the total number of children in Kansas who may be abused and neglected.

There are some possible reasons for the vast differences in reported incidence of child abuse and neglect among counties as shown in *Tables I and II*. Ford county, with the highest incidence, gives priority to prompt response to all reports and to public education concerning the problems. In addition to this, Ford county has a fairly stable social work force and their protective service workers are more skilled in working with reported cases than are some of the less experienced workers in some other counties. These factors have led to high reporting within the county. Another factor responsible for a high incidence of reporting in Ford county is the low incidence of removal of children from their nuclear family as a result of dependency and neglect hearings in the juvenile court. The general population sees the agency as a helping source, and not as an agency which simply removes children from the home when they are reported.

Cherokee county is in an economically depressed section of the state which results in many external stresses on the parents. Since a crisis or stress situation is one of the known factors leading to possible abuse and neglect, this high incidence may in part be explainable by this factor. There is also a wide divergence of cultural groups which have maintained themselves in particular sections of the county. Misunderstanding of cultural norms and customs may have led to some reporting which in fact may prove not be abuse or neglect.

Wyandotte and Johnson counties are urban centers and expected statistics nationwide are that alleged abuse and neglect incidents are high in densely populated, urban settings. The interesting variable in these two counties is the difference in the socio-economic status of a large majority of the caretakers reported. In Wyandotte county, many of the reports come from low income, densely populated sections of the county where abuse and neglect may be correlated with the economic level of the families so reported. In Johnson county, where income is higher, the reports tend to be of suspected mental and emotional abuse, lack of supervision and more subtle forms of neglect. The problems are no less harmful to the children in Johnson county, but it is more difficult to deal with the caretakers since they may tend to take a "see my attorney" stance. In spite of this, however, there is widespread reporting in the county. An active protective service team has attracted many professionals from the community who have been active in educating the public, and have fostered acceptance of reporting suspected child abuse and neglect.

TABLE III

INITIAL REPORTER, SCAN*
(Total Cases—4,840)
July 1974-June 1975
Kansas

	Number	%
1. Relatives	329	14
2. Neighbors	258	11
3. School personnel	214	10
4. Social workers	227	10
5. Parents	203	8
6. Juvenile court	155	7
7. Friends	149	6
8. Anonymous	142	6
9. Law personnel	140	6
10. Physicians	116	5
11. Nurses	91	4
12. Hospital and institutions	63	3
13. Child	30	1
14. Attorneys	24	1
15. Others	180	8
	2,321	100

Many reporters report several children at one time so there are not as many reporters as incidences.
* SCAN = Suspected Child Abuse and Neglect.

At the other end of the continuum are the counties with a very low incidence of reporting. At the time these tables were prepared, neither Kingman nor Greeley county had forwarded a single report to the central office. In both of these counties the welfare staff has a heavy load of public assistance duties, lack time for reports they consider court business, and have no particular training for dealing with the problem.

With the exception of McPherson and Washington counties, all other low reporting counties are in the western half of the state. Here we find a slightly different focus toward social services, particularly in counties which are sparsely populated with little fluctuations in population. Everyone knows everyone else, and many children who would be considered abused or neglected in other parts of the state are "just like everyone else—just a little down on their luck." The community tends to handle the problems without referring the children and families to an agency. There appears to be a more individually oriented attitude—"hands off, don't interfere with families" and a fear that referrals

TABLE IV

SUSPECTED PERPETRATOR, SCAN*
(Total Cases = 4,840)
July 1974-June 1975
Kansas

	Number		%
Natural parents		1,009	73
Mother	636		
Father	373		
Step parents		187	14
Step mother	32		
Step father	155		
Adoptive parents		17	1
Adoptive mother	11		
Adoptive father	6		
Relatives other than parents		40	3
Non relatives		122	9
Total		1,375	100

* SCAN = Suspected Child Abuse and Neglect.

will mean the immediate removal of the children. Professionals as well as lay public are probably not following the letter of the law, because of lack of information. It must be stated that there are those, including mandated reporters, who are unaware there is such a reporting law.

McPherson county built a new youth facility supervised by the court at the time Kansas reporting law was implemented. Many of the reports in that county of school age children go to the court, and are handled under a different law. The children and their families are given services under the court operated facility. This court-controlled process tends to skew the reporting incidence in McPherson county, but it does not necessarily mean that reporting is not being done, or that families and children are not being helped.

Washington county is a small rural county with a fairly stable population where "everyone knows everyone else." In this type of setting minor occurrences are handled by neighbors or relatives, and only the more obvious suspected abuse and neglect cases surface to be reported to the SRS agency or the court.

Despite the variability of incidence of child abuse and neglect in the different counties, the annual incidence rate of 1,756 cases/million population for the state of Kansas is most disturbing. In 1965, Gil[3] began and compiled a nationwide survey of reported child abuse and ranked the fifty states by reporting rate per 100,000 children under 18 years. Texas was ranked number one in reporting rate with 24 per 100,000 children in 1967, and again ranked number one for the following year with a rate of 31.2. Kansas was ranked 37th, with a rate of 2.7 in 1967; in 1968 Kansas ranked 16th with a rate of 7.2.

On the basis of our compiled data, 1,505 cases of physical abuse were reported for the fiscal year 1975, which yields a rate of 206 cases per 100,000 children under age 18. Since the reporting law in Kansas became effective in 1972, the reporting rate has increased by 2,761 per cent compared with 1968.

The suspected perpetrator or abuser in majority of cases are parents. Our data show that parents are the suspected abusers in 88 per cent of cases. Stepfathers are more likely to abuse than stepmothers, and natural mothers are the suspected abuser twice as frequently as natural fathers, simply because the mothers spend more time with their children.

The true incidence of child abuse and neglect cannot be accurately assessed; it is estimated that only one out of three actual cases are being reported. However, the statistics show that there is an increased reporting rate. Although the reporting and recording mechanism vary among the states, the evidence shows that a better reporting system, together with a high level of public awareness, bring far greater number of reports.

In 1969, the American Humane Society reported an estimated 10,000 cases of child abuse nationwide, one-fourth of which were from New York City alone; of these, only 11 cases were reported by physicians.[1] In Kansas, of 2,321 who reported suspected cases of child abuse and neglect in 1975, only 116 physicians (5%) were the initial reporters. It is rather alarming that in view of the overwhelming number of children who present with physical injuries and neglect, only a small percentage are reported by physicians.

The reluctance and non-involvement of physicians in child abuse and neglect cases appear to be due to several factors.[4, 5] Some of these are:

1. insufficient medical school training—the diagnosis, dynamics, and treatment aspects had not been emphasized prior to the past 10-15 years, when child abuse and neglect was not as well recognized as such. A low index of suspicion, especially in minor injuries that do not require hospitalization, are most likely overlooked, thus after the treatment of bruises, abrasions or lacerations, there are no further attempts to inquire whether it was accidental or non-accidental injury;

2. lack of training among physicians in inter-personal skills makes it difficult to confront parents who are not easy to like or who may be antagonistic, thus the resistance to report suspected cases;

3. the difficulty encountered by some physicians in

working with other disciplines as peers, which may be a reflection of "social isolation" in pursuing graduate and postgraduate training MDs, appears to be a factor;

4. the drain on time, finances, and emotion is extensive for a physician in private practice. The fear of alienation of parents, loss of clientele and damage to practice are realistic concerns, especially for one who practices in a small community;

5. there may be an aversion or anxiety on the part of physicians to testify in court—not every physician is trained in this role and the opportunity may not have arisen during one's postgraduate training. There is a lack of understanding of the legal system as well as personal inadequacies in the lack of expertise in testimony, which makes physicians apprehensive in so-called court cases.

6. lack of knowledge or avoidance of community resources—it may well be that previous experiences with bureaucracies of government agencies such as SRS, juvenile court, law enforcement agencies have conditioned physicians not to involve themselves with the very community agencies that may well be utilized to help in followup and long-term therapy;

7. there is lack of personal reward or gratification, especially in working with abusive or neglectful families who have complex psychosocial problems that appear almost hopeless to effectively cure. The measure of therapeutic success is difficult to define. Physicians would rather treat cases that offer more positive and quick rewards.

Child abuse and neglect is a growing problem, many children die unnecessarily (mortality rate is approximately 5-25%), and many more suffer such irreversible damage that they become burdens to society, either as child abusers themselves (approximately 30-60% of child abusers were victims of child abuse themselves), or they become severely and permanently disabled.[1]

The task of coping with the problem of child abuse and neglect is one that should be taken with greater responsibility and concern by physicians. It can no longer be ignored or relegated to others with the hope it will go away. Working with community resources and our continuing interest in prevention, diagnosis and treatment, not only for the child, but also for their families, are important considerations in the overall approach in finding solutions to this problem.

Summary

The epidemiological characteristics of reported cases of child abuse and neglect in Kansas were presented. Since the reporting law to Social Rehabilitation Services became effective, there has been an increase of reporting rate by 2,761 per cent. The annual incidence rate of suspected child abuse and neglect is 1,756 cases/million population.

References

1. Solomon, Theo: History and demography of child abuse. *Pediatrics Suppl.* 51:773-776, 1973.
2. Kansas State Annotated, 1975 Supplement, 38-716-724.
3. Gil, David: *Violence Against Children.* Cambridge, Mass., Harvard University Press, 1970.
4. Schmitt, B. D. and Kempe, C. H.: The pediatrician's role in child abuse and neglect. *Curr. Probl. Pediatr.* 5:5, 1975.
5. Helfer, R. E.: Why most physicians don't get involved in child abuse and what to do about it. *Childr. Today* 4:28-32, 1975.

The Fast Heart

(Continued from page 62)

was not helpful in this group of patients. Operation should be considered in medically refractory patients with surgically correctable lesions. Therapy and prognosis are adversely affected by severe myocardial disease. If satisfactory control can be attained, the prognosis may be better than previously described.

References

1. Lown, B.; *et al.:* Ventricular tachyarrhythmias: Clinical aspects. *Circulation* 47:1364-1381, 1973.
2. Davis, L. D. and Temte, J. V.: Effects of propranolol on the transmembrane potentials of ventricular muscle and Purkinje fibers of the dog. *Circ. Res.* 22:661-677, 1968.
3. Mason, D. T.; *et al.:* Combined actions of antiarrhythmic drugs: Electrophysiologic and therapeutic consideration, in Dreifus, L. S. and Likoff, W. (ed.): Cardiac Arrhythmias: The Twenty-Fifth Hahnemann Symposium. New York, Grune and Stratton, 1973. pp.531-544.
4. Estes, E. H., Jr. and Izlar, H. L., Jr.: Recurrent ventricular tachyarrhythmia. *Amer. J. Cardiol.* 27:690-694, 1971.
5. Thind, G. S.; *et al.:* Ventricular aneurysmectomy for the treatment of recurrent ventricular tachyarrhythmia. *Amer. J. Cardiol.* 27:690-694, 1971.
6. Basta, L. L.; *et al.:* Aneurysmectomy in treatment of ventricular and supraventricular tachyarrhythmias in patients with postinfarction and traumatic ventricular aneurysms. *Amer. J. Cardiol.* 32:693-699, 1973.
7. Ecker, R. R.; *et al.:* Control of intractable ventricular tachycardia by coronary revascularization. *Circulation* 44:666-670, 1971.
8. Herrman, G. R.; *et al.:* Paroxysmal ventricular tachycardia: A clinical and electrocardiographic study. *Amer. Heart J.* 57:166-176, 1959.
9. Mackenzie, G. J. and Pascual, S.: Paroxysmal ventricular tachycardia. *Brit. Heart J.* 26:441-451, 1964.
10. Lesch, M.; *et al.:* Proxysmal ventricular tachycardia in the absence of organic heart disease. *Ann. Intern. Med.* 66: 950-960, 1967.

Cancer Data Service

Ovarian Carcinoma Distantly Metastatic at Diagnosis, 1945-1974

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Ed. Note: This is the third in a series reporting on the survival of 3,842 patients with carcinoma distantly metastatic at diagnosis (Stage IV) who were registered at the Cancer Data Service (CDS), formerly the Cancer Information Center. For previous installments see the *Journal* issues of May and October 1976.

OVARIAN CARCINOMA is a common disease and is now third in frequency of all gynecologic carcinomas. The disease is seen most often in women between the ages of 40 and 60. Ovarian carcinomas tend to have a rather insidious onset that results in a large proportion of cases advanced at diagnosis. Reported rates of prevalence for distantly metastatic ovarian carcinoma were found to range from 36 per cent to 65 per cent of all cases diagnosed.[1, 2]

Symptoms of disseminated disease tend to be short in duration and include lower abdominal pain or pressure, and a mass or abdominal enlargement. Metastases in ovarian carcinoma occur in the regional lymph nodes, lung, liver, and bones.

Generally, for advanced ovarian carcinoma, a biopsy is all that can be done surgically. Removal of as much of the tumor bulk as possible is advocated by some. Prognosis for women with disseminated ovarian carcinoma appears to be directly related to the extent of surgical resection and, therefore, to the volume of residual tumor following the primary operation. A modest increase in survival for patients with ovarian carcinoma distantly metastatic at diagnosis has been reported when using alkylating agents, either concurrently or sequentially, and with radiation therapy.[3–5]

Reported survival rates for advanced ovarian carcinomas are shown in *Table I.*

During the period 1945-1974, the Cancer Data Service registered 525 cases of carcinoma of the ovary and fallopian tubes. Of these, 195 (37%) were diagnosed as distantly metastatic. The status of these 195 patients at last followup was as follows:

	No.	*%*
Alive without obvious disease	6	3.1
Alive with disease	9	4.6
Dead without obvious disease	4	2.1
Dead with disease	171	87.7
Unknown status	5	2.5

Data for survival comparing the 110 patients diagnosed from 1945-1964 and the 85 patients diagnosed from 1965-1974 are displayed in *Figure 1.*

Summary

Survival percentages in our study closely paralleled those of other studies up to the fifth year, at which point they decrease. Nevertheless, an increase in survival, although slight, during the latter period studied can be noticed over the former. The approach to treatment of this disease has changed considerably in two aspects: a decrease in radiotherapy and a considerable increase in chemotherapy.

	No Treatment	*Surgery*	*Radiation*	*Chemotherapy*
	%	*%*	*%*	*%*
1945-1964	16	55	46	26
1965-1974	11	65	26	61

TABLE I

CDS DATA

Years	*1* %	*3* %	*5* %	*7* %	*9* %
1965-1974	38.4	13.9	4.6	4.6	0.0
1945-1964	23.6	6.8	3.9	3.9	2.9

OTHER DATA

Years *Source*	*1* %	*3* %	*5* %	*7* %	*10* %
Albany City[6]	28.7	11.3	7.2	7.2	0.0
Cancer R&R[7]	—	—	8.0	—	—
Recent trends[1]	46.0	17.0	12.0	—	—
Cancer prog[8]	—	—	—	—	—
Ohio[9]	38.5	9.7	0.0	0.0	0.0

This study was supported in part by the Mid-America Cancer Center Program and the American Cancer Society-Kansas Division, and is presented in cooperation with the State of Kansas Department of Health and Environment.

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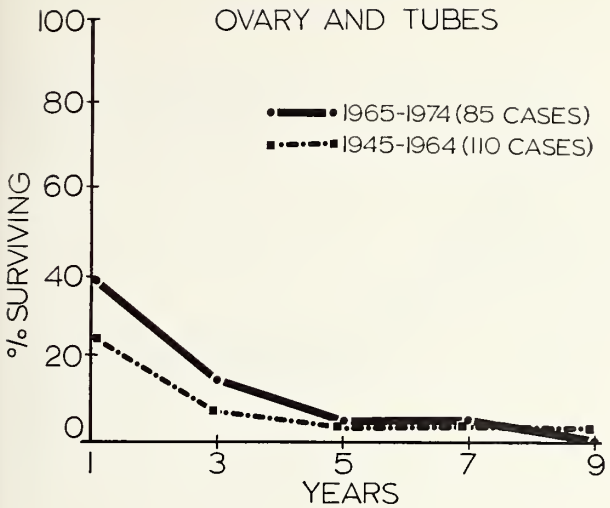


Figure 1

References

1. Axtell, L. M. and Myers, M. H. (eds.): Recent trends in survival of cancer patients, 1960-1971. United States Department of Health, Education and Welfare, Bethesda, Maryland. 1974.

2. Carter, A. P. *et al.:* Cancer in Washington and Alaska, 1960-1971. Washington/Alaska Regional Medical Program, Seattle, Washington, 1973.

3. Griffith, C. T.; Grogan, R. H. and Hall, T. C.: Advanced ovarian cancer: primary treatment with surgery, radiotherapy and chemotherapy. *Cancer* 29:1-7, 1972.

4. Julian, C. G. and Woodruff, J. D.: The role of chemotherapy in the treatment of primary ovarian malignancy. *Obstet. Gynecol. Survey* 24:1307-1342, 1969.

5. Hreshchyschyn, M. M.: *Chemotherapy of ovarian cancer.* New Concepts of Gynecologic Oncology. Lewis, G. C. *et al.* (ed.), F. A. Davis Co., Philadelphia, Pennsylvania. 1966.

6. Albany County Tumor Registry: Tumor Registry Report, Albany County Health Department and the New York Department of Health, New York. June 1966.

7. Levin, D. L. *et al.: Cancer Rates and Risks,* ed. 2. United States Department of Health, Education and Welfare, Bethesda, Maryland. 1974.

8. James, A. G.: Cancer prognosis manual. American Cancer Society, Inc. New York. 1966.

9. Ohio State University Hospitals Tumor Registry: Results of Cancer Survival and End Results, 1962-1974. The Ohio State University Hospitals, Columbus, Ohio. 1975.

Breast Carcinoma Distantly Metastatic at Diagnosis, 1945-1974

BREAST CARCINOMA distantly metastatic at diagnosis is not uncommon. Reported prevalence rates for patients who present with advanced forms of breast carcinoma have varied from 4.5 per cent to 10 per cent of all breast cancer in published series.[1, 2]

While patient delay in seeking medical attention is one of the major reasons for delay in initial diagnosis, a significant number of women present with skeletal, lung, liver, or even brain metastases from small, unrecognized breast primaries. In addition, it has been postulated that many cases of breast carcinoma are advanced at diagnosis, but have micrometastases that are not demonstrable.[3] Relapse after radical mastectomy supports this theory.

As all patients with advanced breast carcinoma ultimately die with their disease, none of the forms of treatment for advanced breast carcinoma currently in use are given with curative intent. Present treatment of advanced breast carcinoma aims at controlling the disease.

Survival statistics for untreated breast carcinoma distantly metastatic at diagnosis are not available. Various series have been published, however, for treated advanced disease. Survival rates are shown in *Table I.*

During the period 1945-1974, the Cancer Data Service registered 3,058 cases of breast carcinoma. Of these, 219 (7%) were diagnosed as distantly metastatic. The status of these 219 patients at last followup was as follows:

	No.	%
Alive without obvious disease	7	3.2
Alive with disease	41	18.7
Dead without obvious disease	10	4.6
Dead with disease	153	69.9
Unknown status	8	3.6

Data for survival comparing the 99 patients diagnosed from 1945-1964 and the 120 patients diagnosed from 1965-1974 are displayed in *Figure 1.*

Summary

Survival percentages for breast carcinoma distantly metastatic at diagnosis seem to differ somewhat in consideration of the source of data. When CDS data was reviewed, the survival curve for the most recent decade was found to be better than the period 1945-1964, although not significantly better.

It is possible that more patients have recently received cytotoxic drugs than in the earlier period as chemotherapy here means both hormonal and cytotoxic therapy.

TABLE I

CDS DATA

Years	*1* %	*3* %	*5* %	*7* %	*9* %
1965-1974	62.3	24.4	20.0	17.5	13.6
1945-1964	49.2	23.6	15.4	11.3	7.1

OTHER DATA

Years *Source*	*1* %	*3* %	*5* %	*7* %	*10* %
Albany CTY[4]	70.8	37.5	19.8	8.7	1.2
Cancer R&R[1]	—	—	10.0	—	—
Recent trends[5]	45.0	17.0	10.0	—	—
Cancer prog[6]	—	—	18.0	—	0.0
Ohio[7]	48.3	21.2	11.7	5.2	0.0

	No Treatment %	*Surgery* %	*Radiation* %	*Chemotherapy* %
1945-1964	11	59	56	47
1965-1974	4	65	48	58

Acknowledgment

Kansas hospitals contributing cancer case data to these studies are: St. Joseph's of Concordia; Mercy of Fort Scott; St. Catherine of Garden City; Halstead of Halstead; Sheridan County of Hoxie; Bethany Medical Center, Kansas University Medical Center, and Providence-St. Margaret Health Center of Kansas City; Ransom Memorial of Ottawa; Mt. Carmel Medical Center of Pittsburg; Stormont-Vail of Topeka; and St. Joseph Hospital and Rehabilitation Center and Wesley Medical Center of Wichita.

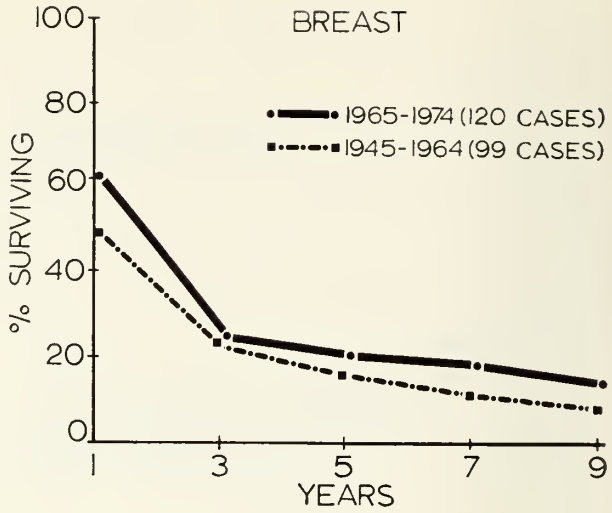


Figure 1

References

1. Axtell, L. M. and Myers, M. H. (eds.): Recent Trends in Survival of Cancer Patients, 1960-1971, United States Department of Health, Education and Welfare, Bethesda, Maryland. 1974.

2. Parish, H. S.: Cancer in the Rocky Mountain Region, Mountain States Regional Medical Program, Boise, Idaho. November, 1972.

3. Robnett, A. H., Jones, T. E. and Hazard, J. B.: Carcinoma of the breast; recurrence and survival in 203 patients. *Cancer* 3:757-772, 1950.

4. Albany County Tumor Registry: Tumor Registry Report, Albany County Health Department and the New York State Health Department, New York. June, 1966

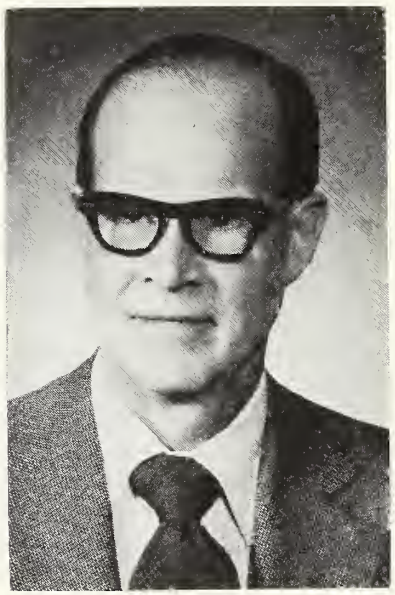
5. Levin, D. L. *et al.*: Cancer Rates and Risks, ed. 2. United States Department of Health, Education and Welfare, Bethesda, Maryland. 1974.

6. James, A. G.: Cancer Prognosis Manual. American Cancer Society, Inc., New York. 1966.

7. Ohio State University Hospitals: Tumor Registry: Reports of Cancer Survival and End Results, 1962-1974. The Ohio State University Hospitals, Columbus, Ohio. 1975.

The President's Message

Since the beginning of January, our interests in Topeka and Washington have changed from politics to legislation. Our Key Man system is being implemented. Your Professional Liability Commission and Legislative Committee are meeting and working regularly. Our activities in the next few months will exhibit our real interest (or lack of it) in the health care of Kansans for years to come. If you are not receiving the KMS Legislative Bulletin, a call or card to the KMS office in Topeka will put you on the mailing list. Our emphasis in the field of legislation must be stressed prior to the enactment of laws. It does no good to wait and complain about a bill that has been passed and signed into law. It behooves each of us to keep informed, and communicate our wishes to the KMS.



The above requires me to mention the necessity of our cooperation with other organizations in the state with which we share some common goals. This needs to be continuous and ongoing. I won't mention specific organizations for fear of omitting others, but you know which they are. We cannot do the most good by serving as a small-town volunteer fire department by rushing to our suits, buckets, and trucks when the fire breaks out. We must be on the job at all times. The day is long past when a physician fulfills his responsibility in providing health care only by treating ill patients in office, home, or hospital.

We learned a few months ago of harassment of a few Kansas physicians by HEW personnel, pertinent to the use of and charges for physician extenders in the care of Medicare and Medicaid patients. In general terms, it seems that the State of Kansas and one group in HEW favor the use of physician extenders, while another group in HEW will pay for their services only if the physician in charge is in the same room when the care is being given. This obviously negates any possible usefulness of the helper. If each of you who has been approached by these people will inform the KMS of such a contact, it will enable us to better help you.

Your KMS was well represented at the AMA Clinical Convention in Philadelphia.

Fraternally,

Emerson Goder, M.D.

President

As Revenues Permit What?

Dear Mr. President:

At this writing, you are still suffixed with "elect" although you will shortly be inducted into the final mysteries with all of the rights and obligations thereof. Since you are not on our subscription list, the chance that you will see this approximates the likelihood of Mr. Brezhnev calling to say that he is this day destroying all of his war materiel. However, partly because of the suddenness of your arrival on the national political scene, it has become fashionable to address various items of advice and instruction to you. These communications are designed to assist you in your work although some, as in this case, owe less to any expectation of influencing you than a need for personal ventilation by the writers.

The time since your election has gone rapidly—in part, at least, because we have had almost hourly releases of comment, interpretation, speculation, and prediction on how you got where you are and where you are going now that you are there. The election brought analyses of the voting so exhaustive and detailed one wondered what had happened to the secret ballot. It was immediately determined that your success resulted from your appeal to various groups—notably the blacks, the women, conservationists, consumer advocates—labor, of course—to name a few. Each of these has claimed to have been the deciding factor in your election and has declared its expectation of having prime influence on your decisions. Already you have heard rumblings of discontent from some of them over some of your appointments and decisions. In these appointments, perhaps anticipating the traditional "honeymoon" which is supposed to follow the inaugural, there seems to have been a nuptial quality—something old, something new, something borrowed—and some you blew. And despite the chummy atmosphere presumed to characterize your administration, this tumultuous phase hasn't been rendered any more tranquil by the changes you have been making in some of your campaign promises.

Now, on the basis of preelection reports and recognizing the unease with which physicians (not all, to be sure) viewed your demonstrated attitude toward the medical scene, it seems certain that one of the minorities to which you are *not* beholden for your election is the medical profession. Though it was by no means the only issue, the prospect of the national health insurance plan you would promote was probably the focal point of our disagreement. However, considering that nearly everyone (including the AMA) has come up with a plan and noting that you have at least shifted your stance to "as revenues permit," we do believe our relationship with you may be negotiable. Moreover, in view of the behavior of some of your friends, you may find declared opponents more comfortable to deal with.

To this end, we would like to offer some explanation for the persistent image of physicians as intransigent, self-centered prima donnas. This stems from the fundamental attitude of the physician toward the patient. We recognize that this relationship has undergone some alteration in recent years (as have many traditional relationships) but basically—and to a greater degree than many of your friends believe—physicians are motivated by their belief of what is best for their patients. But the physician's political mistake is persisting in the belief that what will serve 215,000,000 people is simply what will serve one multiplied 215,000,000 times. On the other hand, the politicians think that their plans for taking care of 215,000,000 people can be divided by 215,000,000 to provide the proper care for one individual—and this is just as wrong.

The greatest service you can do the country medically is to provide a healthy climate for the reconciling of these conflicting interpretations. At the moment, it has been recorded both in your attitude and in the early statements of your Secretary for HEW that physicians will get a distinctly muted voice in medical decisions on a national political level. The intent is to increase the status of others involved in the medical decision-making

process. While physicians cannot dispute a limited justification for this, it is not contrary or obstructive to insist upon respect for medicine's intents and accomplishments and practical experience in the field.

One of the items of highest priority is the cost of health care. By some degree of truth and vigorous repetition, it has become established in the minds of all that health care costs too much—and commentators overlook no opportunity to associate the thought with the physician's role and income. Evaluating this cost brings to mind the old story about the man who, when asked how his wife was, replied, "Compared to what?" We cannot determine whether the cost of health care is too high until we know what kind of health care the public wants and how it is to be paid for and its relationship to other living costs.

As far as physicians are concerned, there is an understandable (to them) feeling that the high cost of medical care should be kept in perspective of the social and cultural scene. Physicians are, as a group, directly responsible for only part of this cost but, in the public mind, morally responsible for all of it. Perhaps physicians have not done as good a job as they should have in keeping patients oriented in the area of health costs and responsibilities. And their characteristic difficulty in relating objectively to the media continues to produce an incomplete or inadequately articulated version of their social role. (We note in passing that Senator Moss's histrionic exposure of Medicaid frauds got broad coverage by the media, but his subsequent comments that he was prompted and aided in the effort by the organized medical community were scarcely noted.)

Since the principal theme is cost, medicine will approach the discussions with the knowledge (gained from experience) that the corrective program will certainly include efforts to establish limits and terms of physicians' charges—if not directly, then through some complicated pay formula which will increase their paperwork and probably leave them shortchanged by a public which considers them grasping because of the lurid tales of Medicaid fraud. You have indicated that you are against wage and price controls. May we hope that this extends to medical services, too?

In tandem with the problem of health care costs is the pressure for a national health insurance program. It may be a matter of kindergarten economics but we hope that your people will keep in mind that the provision of health care has long since passed the point of diminishing returns if, in fact, the law ever did apply. When medical service (not the availability but the *service*) is promoted as a social "right," it ceases to be the traditional application of the science and art of the management of health. It is transmuted into a sociologic function enveloping every level of human endeavor. When, by sociologic definition, an increasingly large segment of the public becomes medically dependent on society and is unable by the same definition to contribute to the productivity of that society, it requires significant change in the sociopolitical bookkeeping.

There has been much speculation as to whether national health insurance will come this year or next, in large segments or small, what cosmetic embellishments will be applied to it. There is still resistance to the concept in some quarters (guess where) but the bulk of the comment is not "whether" but "what." Of course, a national health system is already here in the form of Medicare and Medicaid. It really appears to be a matter of determining the next step and it also appears that the so-called catastrophic medical events, because of the aura of threat that reaches all of us and makes them more generally acceptable, will be it. The victims of these problems share with their predecessors—the elderly and the impoverished—the inability, through their medical or social characteristics, to contribute to the general productivity while putting a greater demand on it than the general population. This is not to question the worthiness of these groups or belittle their needs but to point to inevitable sequelae. It is not just a matter of supplying basic medical care to this growing portion of society, but the fact that we are thereby committed to supply the recipients the full measure of our medical capability and resources. The alternative, in the interests of economy, would result in establishment of a table of escalating qualifications which would, in the current climate, be shortly eliminated as discriminatory.

The very nature of catastrophic situations—the reason for federal coverage in the first place—indicates that they consume a large portion of the sophisticated techniques and specialized medical and surgical expertise and thus account for a considerable portion of health care costs. It must be recognized, as well, that beside the inherent professional pressure that exists within any medical effort to extend and refine its capabilities, such coverage will not economize but extend this activity. And this is not comparable to an industrial or mercantile effort where, after an initial investment in research and development and marketing procedures, increased profits will return to improve the financial stability of the organization and support further expansion. Except as it protects, extends and enhances life, medical practice will always be a non-profit (even losing) effort. If the protection, extension and enhancement of life *are* the profit, then we must understand the investment necessary to realize them.

Current capabilities always create urgent future needs. There has never been a time in which society did not

attend its needy in some way, but there have been times when the awareness of the needy, the definition of this group, and the implementation of meeting their needs have surged forward—and we are in such a time. When society must assume an increasing obligation for a segment which is unproductive and defines additional segments in need of help, there must obviously be some readjustment of the economy. What this suggests to us, Mr. President, is that we are not talking about a reduction of health care costs at all but a redistribution—even increase. And how this will be done would seem to be one of the stickier items on your agenda.

Well, that's it for now. And we got through without once mentioning Amy or peanuts—oops!

Yr. obdt. svt.—*D. E. G.*

Vox Dox

Vox Dox Editor:

The lead article in the December 13 issue of the *American Medical News* was a sharp and bitter disappointment. That the AMA delegates would advocate a bill to Congress for a national health insurance program is in distinct disfavor in this area of our nation. Predictably this policy will lose many more members from the private practice segment of our profession. Giving guidelines to government action is similar to telling the tiger which extremity he should eat first, or asking a coyote to babysit the chickens.

The deterioration of "Health Care" in England, Sweden, and some of the Canadian provinces should deter us from making the same mistakes. I have traveled in these countries and have seen their shortcomings at first hand. The poor quality of medical service in these nations is not for lack of proper guidelines, but because they are socialistic, which means expensive and extravagant almost beyond imagination, detrimental to efficient productivity, and immoral in that it takes from almost everyone to give to some, and promotes a "get-more-than-you-give" attitude.

If we do not learn from the mistakes of others, we must suffer in the same fashion. Private medicine is far from perfect, but in comparison with National Health Insurance, it almost seems so.

GARLAND L. CAMPBELL, M.D.
Arkansas City

Vox Dox Editor:

For a statistical research purpose, we are attempting to accumulate data research regarding the number of physicians and other professional men in this country who have had, or still have, members of their families involved with the so-called religious cults such as:

Occult—Witchcraft and Satan Cults (Druids, etc.);
Vedic Hindu, such as Hare Krishna, Divine Light Mission, etc.;
Christian based—Unification Church ("Moons"), Church of the Bible Understanding (Forever Family), The Way, etc.;
Political—The Weathermen, National Social Labor Coalition, etc.;
Pseudo-Scientific—Scientology, UFO, The Foundation (The Process), etc.;
Other

Inasmuch as there is a question of hypnosis being used by the cults, and also some questions regarding the health and well-being of members involved in cults, I would appreciate your cooperation in printing this letter (or a suitable notice or ad).

Interested persons should reply to:
JOHN G. MCCONAHY, M.D.
(representing the Individual Freedom Foundation)
143 Valhalla Drive
New Castle, PA 16105

We would also be interested in hearing from or hearing about, any physician who is, or has been, a member of such a cult.

For further information write:
CEFM, Box 5084, Arlington, TX 76011
IFF, Box 48, Ardmore, PA 19003
IFF, Box 131, Allison Park, PA 15101

Letters to VOX DOX should be addressed to the Vox Dox Editor, Journal of the Kansas Medical Society, 1300 Topeka Avenue, Topeka, Kansas 66612.

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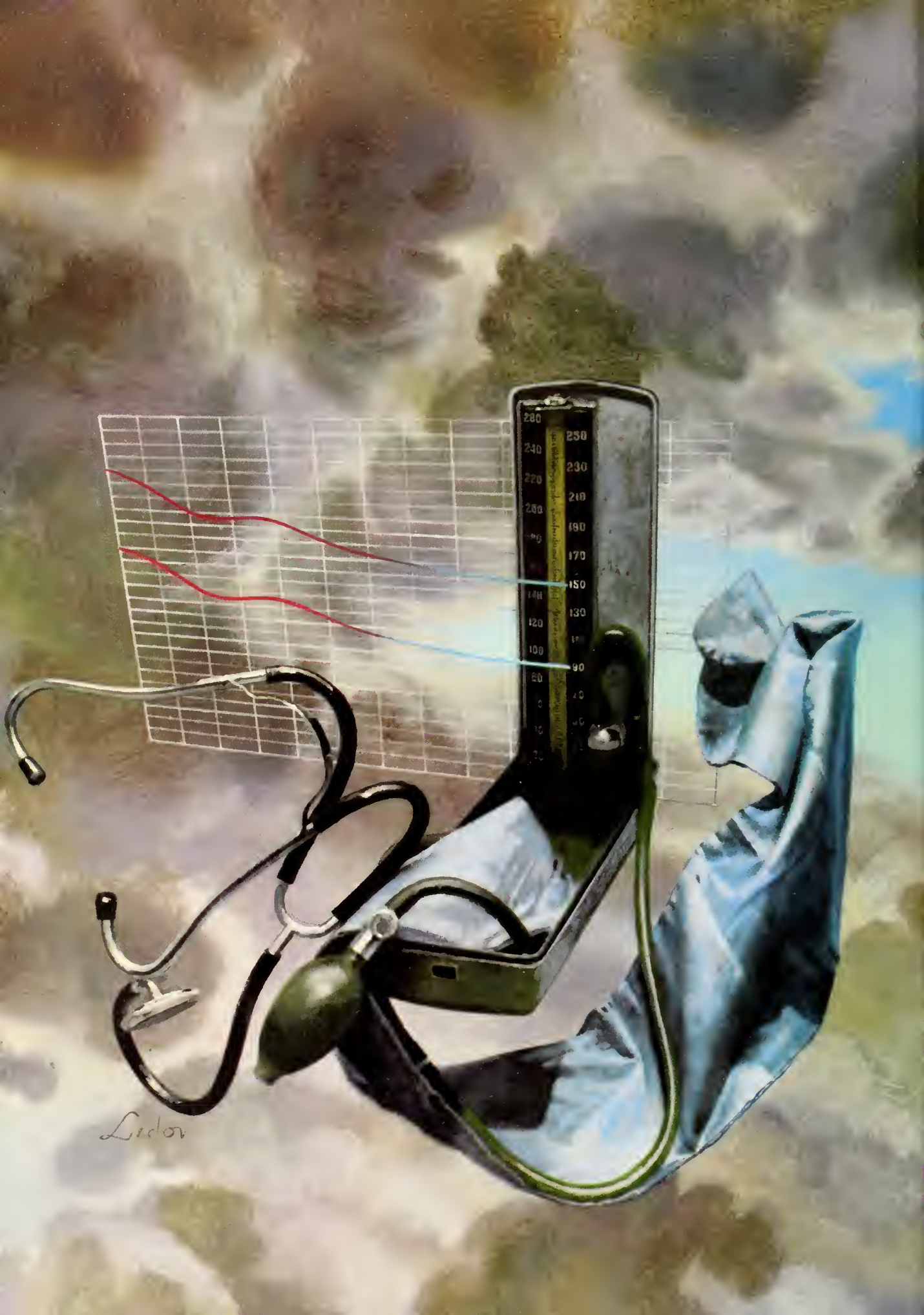
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References:

1. Dornfeld L, Kane R: Metolazone in essential hypertension. The long-term clinical efficacy of a new diuretic. *Curr Ther Res* **18**: 527-533, 1975.
2. Data on file, Medical Department, Pennwalt Prescription Products.

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* **Indications:** When the fixed combination represents the dosage determined by titration: Adjunctive therapy in edema associated with congestive heart failure, hepatic cirrhosis, the nephrotic syndrome. Corticosteroid and estrogen-induced edema, idiopathic edema; hypertension, when the potassium-sparing action of its 'Dyrenium' component is warranted.

Contraindications: Further use in progressive renal or hepatic dysfunction; hyperkalemia. Preexisting elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs. Routine use of diuretics in otherwise healthy pregnancy.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in severely ill patients with urine volume less than one liter/day, the elderly or diabetics, with suspected or confirmed renal insufficiency. Periodic determinations of serum K^+ should be made. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **The presence of a widened QRS complex or arrhythmia in association with hyperkalemia requires prompt additional therapy.** Thiazides are reported to cross the placental barrier and appear in breast milk; fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and other adverse reactions that have occurred in the adult may result. When used in pregnancy or in women who might bear children, weigh potential benefits against possible hazards to fetus. Adequate information on use in children is not available.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics, or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spironolactone is used concomitantly, determine serum K^+ frequently; both can cause K^+ retention and elevated serum K^+. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving Dyrenium® (triamterene, SK&F Co.), and leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with thiazides. Do periodic blood studies in cirrhotics to check for nondrug-related variations in blood pictures, and in patients with folic acid depletion, since 'Dyrenium' may contribute to appearance of megaloblastosis. Antihypertensive effect may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine.

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Council Meeting

Report of Meeting Held January 16, 1977

A meeting of the Council was held at 10:00 AM on Sunday, January 16, 1977, at the Best Western Inn, Junction City. Dr. Emerson Yoder, President, called the meeting to order.

Present were the following officers and councilors:

Lewis G. Allen, M.D.	Shawnee Mission
Kenneth Boese, M.D.	Manhattan
Richard L. Brownrigg, M.D.	Dodge City
V. W. Filley, M.D.	Pratt
Herbert Fransen, M.D.	Newton
Donald D. Goering, M.D.	Salina
L. William Halling, M.D.	Hays
John D. Huff, M.D.	Kansas City
Glen L. Madsen, M.D.	Lawrence
Warren E. Meyer, M.D.	Wichita
Robert F. Moore, M.D.	Caney
Alex Scott, M.D.	Junction City
Millard C. Spencer, M.D.	Topeka
Roger D. Warren, M.D.	Hanover
Kermit G. Wedel, M.D.	Minneapolis
Emerson D. Yoder, M.D.	Denton

Also present were Drs. John N. Blank, Jack R. Cooper, H. W. Hiesterman, Vernon L. Kliewer, Robert Kugel, and Charles R. Svoboda.

Also present were Mr. Jerry Slaughter, Mrs. Val Braun, and Mr. Gary Caruthers.

The Council reviewed and approved actions taken by the Executive Committee during the interim period.

A request for revocation of the Smith County Medical Society charter was granted, to enable the two Society physicians (Drs. Robert G. Sheppard and Hugh J. Woods) to join the Central Kansas Medical Society.

A letter from the Insurance Commissioner, requesting copies of Relative Value Study was considered. The Council instructed Mr. Slaughter to advise the Commissioner of the fact that the Kansas Medical Society does not endorse, own nor allow reproduction of a copy of KRVS.

The Council approved a grant of $500 to the American Association of Medical Society Executives for the year 1977.

The Council was advised that the term of Dr. Ivan Rhodes, Wichita, on the Blue Cross Board of Directors had expired and that Dr. Rhodes was ineligible for reelection. The Council then nominated Dr. J. Gilleran Kendrick, Wichita, to this position. Dr. John W. Travis, Topeka, was selected as alternate.

A letter by Dr. David E. Gray, Editor, was reviewed, stating that, because of the currently healthy state of the JOURNAL's finances, the JOURNAL would resume underwriting the cost of the April (annual meeting program) issue, beginning in 1977.

The Councilors were reminded to submit the annual reports for publication in the JOURNAL, and subsequent inclusion in the Delegates' *Handbook*.

The Dodson Insurance Group, of Kansas City, Missouri, requested to survey Kansas physicians for the purpose of selling Workman's Compensation insurance at a reduced premium. It is understood that such permission to survey will carry with it no obligation on the part of the Kansas Medical Society. The request for survey was granted.

Next, the Council heard a report by Dr. Robert Kugel, Executive Vice-Chancellor of KUMC. Dr. Kugel discussed health manpower distribution and the various activities pursued by the Medical Center, including Rural Health Weekend, increase in primary care residencies, and physician recruitment. He mentioned two bills that are expected to be introduced in the 1977 legislature, one requiring the Medical School to admit five students from each senatorial district, and the other bill to raise tuition from $1,500 to $15,000 per year. The higher tuition would be waived if the student agreed to serve in a rural area after graduation.

There followed a considerable question-and-answer period, during which it was suggested that a one- or two-day workshop, involving all interested parties to discuss health manpower distribution and medical school admission policies, may be helpful. Dr. Kugel agreed that such a session would indeed be helpful and stated that KUMC stands ready to participate in it.

The Council was reminded of the KMS-Kansas Farm Bureau Medical Student Loan Program. It is anticipated that loans of $750/student/semester would be granted, in return for the student's serving in medically underserved areas and repaying the loan at substantially lower interest rates.

Mr. Slaughter presented a lengthy report on legislative activities for 1977. Issues expected to be considered by the 1977 Legislature:

Optometric use of drugs for diagnostic purposes

Brand exchange
Catastrophic Health Insurance
Rural health care
Technical changes in the Pharmacy Act
Products liability
Confidentiality of medical staff records and proceedings.

The Council adjourned for lunch at 12:00 noon, reconvening at 12:45 PM.

The Council ratified and updated an agreement with Mr. Oliver E. Ebel, whereby the Kansas Medical Society would pay Mr. Ebel $10,000 per year for ten years beginning June 1, 1975. In accordance with the opinion rendered by the KMS Legal Counsel, Mr. Ebel must continue to pay Social Security taxes. The Society will match the appropriate FICA payments.

The Council also reiterated its decision of April 11, 1976, concerning pension plans for the Executive Staff. Effective July 1, 1976, an amount equal to 15 per cent of salaries of Mr. Slaughter, Mrs. Braun, and Mr. Caruthers would be allowed for pensions.

It was announced that the pre-trial conference for the constitutional test of SB-646 has been scheduled for February 3, 1977. The Professional Liability Commission does not intend to submit any amendments to SB-646 until the constitutional test is completed.

The Council was advised that approximately 1,200 members had paid the 1976 professional liability assessment. The physicians on state and federal payrolls fear a possible conflict of interest in paying the special assessment. The Council voted to exempt such physicians from paying the assessment, but to encourage them to contribute an equal amount ($50.00) to the KMS General Fund.

The Kansas Medical Society receives many requests for claims review for third parties. Because of a federal ruling, the Kansas Foundation for Medical Care, as a PSRO, is not allowed to review claims. It was reported that some county medical societies do claims review on a local level. After considerable discussion, the Council authorized Dr. Yoder and Mr. Slaughter to study the matter and to present to the Council a schematic for a review mechanism involving county medical societies or specialty societies, as appropriate.

The Council approved a request by KaMPAC for $5,425.00 to be used for educational purposes for calendar year 1977.

Dr. Yoder briefly reviewed the actions of the Executive Committee which met earlier that morning, as follows:

Vetoed sending a KMS officer to an AMA seminar in London;

A resolution concerning the reapportionment of the House of Delegates will be studied by a subcommittee to be appointed by the President;

No recommendation will be made to change the licensing laws with respect to locum tenens;

Rejected a proposal by a consulting firm for handling CME activities;

Referred a proposal by a bill collection agency to the Insurance Committee for further study.

The Council was adjourned at 2:30 PM.

Malignant Hypercalcemia

(Continued from page 64)

References

1. Silva, O. L. and Becker, K. L.: Salmon calcitonin in the treatment of hypercalcemia. *Arch. Int. Med.* 132:337-339, 1973.
2. Schneider, A. B. and Sherwood, L. M.: Calcium homeostasis and the pathogenesis and management of hypercalcemic disorders. *Metabolism* 23:975-1007, 1974.
3. Suki, W. N.; *et al.:* Acute treatment of hypercalcemia with furosemide. *New Eng. J. Med.* 283:836-840, 1970
4. Friedman, J. and Raisz, L. G.: Thyrocalcitonin: Inhibitor of bone resorption in tissue culture. *Science* 150:1465-1467, 1965.
5. Yarbro, J. W.; *et al.:* Mithramycin inhibitor of ribonucleic acid synthesis. *Cancer Res.* 26:36-39, 1966.

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AMA House of Delegates

Summary of Actions Taken at the Clinical Convention, Philadelphia, Pennsylvania, December 5-8, 1976

Completely opposite points of view, such as an "AMA pullout on national health insurance would completely decimate AMA's credibility on all legislative matters," to "There is a right way to resist all national health insurance plans and a wrong way for the AMA to sponsor a bill most physicians don't believe in," started the debate on the hottest issue of the recent American Medical Association 1976 Clinical Convention at Philadelphia.

Numerous reports from the Board of Trustees, the different councils and resolutions were considered, debated, and voted upon at the recent convention meeting. The Kansas delegation consisted of Clair C. Conard, Dodge City, Delegate; Alex Scott, Junction City, and Lew W. Purinton, Wichita, Alternate Delegates; Emerson Yoder, Denton, President; and Jerry Slaughter, Executive Director of the Kansas Medical Society. Dr. Yoder was qualified as Alternate Delegate to replace Dr. George Burket, who was unable to attend this meeting. It was agreed among the delegates and alternate delegates that all would take turns acting as delegates during the official business of the house to provide the opportunity of learning about AMA House meetings from first-hand experience.

Prior to the 1976 Clinical Convention, the reports and resolutions assigned to the nine different reference committees were assigned to the representatives and the Executive Director from Kansas, for study. Once the entire delegation arrived in Philadelphia, we had numerous meetings to discuss the importance and implications of the different reports and resolutions, and to arrive at a consensus as to the position the Kansas Medical Society would take on different issues.

The major issue of the convention both in emotion and time consumption concerned the advisability of reintroducing the AMA bill for national health insurance. There was a highly vocal group, spearheaded by the delegation from Louisiana, consisting of Nebraska, Illinois, South Carolina and New Mexico, who spoke against the introduction of the bill. However, there were other delegations, including the New England delegation, the Board of Trustees, Texas, Michigan, California and New York, who spoke in support of the AMA National Health bill 6222. Long discussion ensued in the reference committee and was then carried onto the floor of the house for approximately two hours. At times there were 25 to 30 delegates standing in line waiting to speak on this issue. The question was not of whether national health insurance was needed or desirable, as all speakers agreed that it was not. The basic question was how to best avoid the enactment of any type of compulsory national health insurance that would be catastrophic to the public both in lowered quality of medicine as well as near-bankrupting cost. The Kansas delegation opposed the reintroduction of the National Health bill by the AMA.

Another subject of equal importance but not quite creating the same emotional fury was that of the Health Systems Agency law (National Health Planning and Resources Development Act of 1974). Several reports and resolutions pertained to the HSAs and many were referred to the Board for consideration. These included a recommendation that the implementation of this act be placed in another federal agency—other than the Department of Health, Education and Welfare; establish as a legislative priority the replacement of this act with health planning principles that were acceptable to organized medicine; and seek an increase in practicing physician representation on HSA boards. The House of Delegates reaffirmed its formal definition of primary care specialties at the convention and turned down a strong bid to refuse to designate any field as "primary."

The issue came up in response to several resolutions asking AMA to either redefine primary care more broadly or adopt a position of refusing to define the term at all. General practice, family practice, internal medicine, pediatrics and obstetrics/gynecology are still the AMA choices as formal primary care specialties.

The medical societies are being "bullied" by the Federal Trade Commission in giving up their relative value studies, the House of Delegates was told. Three resolutions were introduced urging the AMA to lobby for laws protecting the use of the relative value studies, but after being advised by some trustees that the resolutions were too sweeping, the House of Delegates instead voted to refer the issue to the Board. In doing so, the Board of Trustees was ordered to study how to gain legislation which would permit the medical profession to use relative value fee studies.

Some of the other actions taken by the delegates include:

Turned down an attempt by several state delegations to pass a resolution urging that rural physicians receive greater reimbursement under Medicare than under current regulations. The House instead reaffirmed current policy that physicians should be adequately compensated according to the usual customary and reasonable guidelines;

Referred for further study a proposal to set up a new section on Administrative Medicine in the AMA for physicians who are in administrative offices in government or private sector;

Excluded non-members from AMA group insurance program and voted to provide continued coverage to the spouse of a deceased member;

Reaffirmed the position that rapid and significant weight loss for unrealistic weight maintenance is detrimental to the health of amateur wrestlers;

Resolved to continue supporting campaigns to educate the public to the health hazards of smoking;

Heard the Council on Medical Education report progress in developing education essential for minimum standards for fellowship training;

Referred to the Board a proposed reciprocity program for continuing medical education credits between the programs of the United States and Canada.

Adopted a Board report outlining guidelines for physicians thinking of locating offices in buildings owned or controlled by hospitals.

We once again found great advantage in meeting with other states' delegates to discuss the resolutions, action to be taken, and better coverage of the reference committees. Our association with the Oklahoma delegation has been mutually beneficial and is something we hope to encourage and enlarge.

The Delegates and Alternate Delegates to the AMA have a complete summary of all actions considered and taken at the convention in Philadelphia, as well as a book outlining the AMA's official stand on all items presented to it in the past. If anyone would like the results or disposition of any particular resolution or report, please let one of us know.

Clair Conard, *M.D., Delegate*
Alex Scott, *M.D., Alternate Delegate*
Lew Purinton, *M.D., Alternate Delegate*
Emerson Yoder, *M.D., Acting Delegate*

"THE KANSAS DOCTOR"

The Kansas Doctor is available! This book is a delightful historical account of medicine in Kansas. Orders are being taken by the AMA-ERF chairmen:

Mary Ruth Yulich
2106 Chester Ct.
Kansas City, KS 66106

OR

Caryl Bichlmeier
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Mission, KS 66202

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Each 30 ml. contains:

Kaolin	6.0 g.
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Hyoscyamine sulfate	0.1037 mg.
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Hyoscine hydrobromide	0.0065 mg.
Powdered opium, USP (equivalent to paregoric 6 ml.) (warning: may be habit forming)	24.0 mg.
Sodium benzoate (preservative)	60.0 mg.
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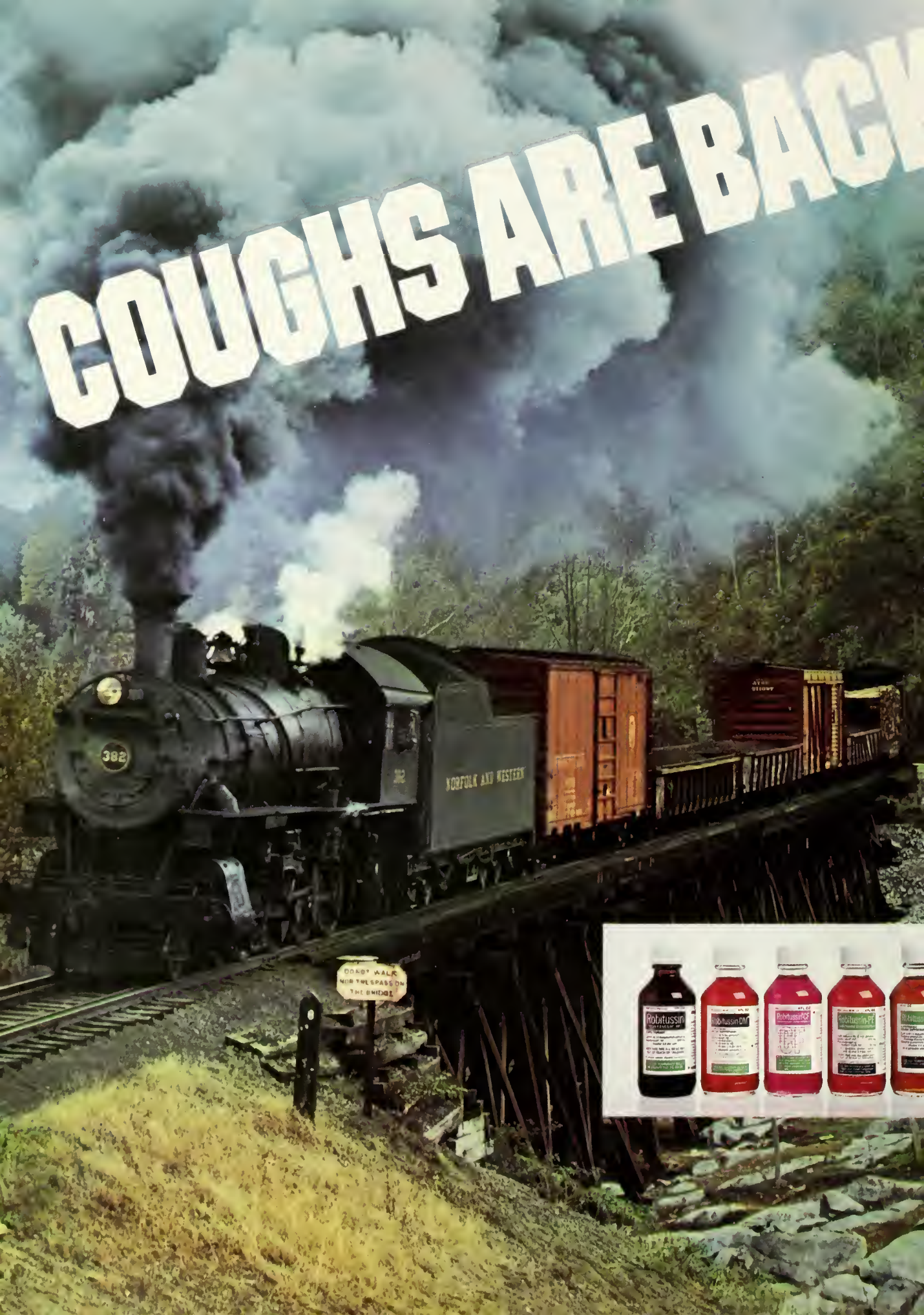
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382
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Robitussin-PE

CLEAR THE TRACT

in coughs of colds, "flu" and u.r.i.— clear the tract with the famous Robitussin® Line!

The 5 members of the Robitussin® family all contain the expectorant, guaifenesin, to help clear the lower respiratory tract. Guaifenesin works systemically to help stimulate the output of lower respiratory tract fluid. This enhanced flow of less viscid secretions promotes ciliary action and makes thick, inspissated mucus less viscid and easier to raise. As a result, dry, unproductive coughs become more productive and less frequent.

OUR PHOTO: Norfolk & Western Branch Train No. 202 west bound near Alvarado, Va. (Oct., 1956). This line reaches the highest point of any railroad East of the Rockies (elevation 3,577 ft.) with a minimum grade of 3%. It crosses 108 bridges, some 700 ft. long! Photo by O. Winston Link.

For productive and unproductive coughs

Robitussin®

Each 5 ml teaspoonful contains:
Guaifenesin, NF ..... 100 mg
Alcohol, 3.5%

For severe coughs

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Each 5 ml teaspoonful contains:
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(warning: may be habit forming)
Alcohol, 3.5%

Non narcotic for 6-8-hour cough control

Robitussin-DM®

Each 5 ml teaspoonful contains:
Guaifenesin, NF ..... 100 mg
Dextromethorphan
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Alcohol, 1.4%

Decongests nasal passages and sinus openings as it helps relieve coughs

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Each 5 ml teaspoonful contains:
Guaifenesin, NF ..... 100 mg
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Alcohol, 1.4%

Decongestant action helps control cough and clear stuffy noses and sinuses. Non narcotic.

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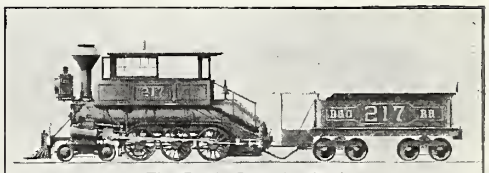
All Robitussin formulations available on your Rx or Recommendation.

For many years Robins has spotlighted the expectorant action of the Robitussin cough formulations by featuring action photographs of steam engines like the one on the preceding page. In keeping with this tradition, last year the company commissioned a well-known illustrator to render full-color drawings of several classic locomotives . . . accurate to the minutest detail. Chances are you requested and received the first locomotive in this series, The William Mason, last winter. Now, the second one is available. (See below). To order your print suitable for framing, write "Robitussin Clear-Tract Engine #2" on your Rx pad and mail to "Vintage Locomotives," Dept. T4, A. H. Robins Company, 1407 Cummings Drive, Richmond, Va. 23220.



The Davis Camel (1873)

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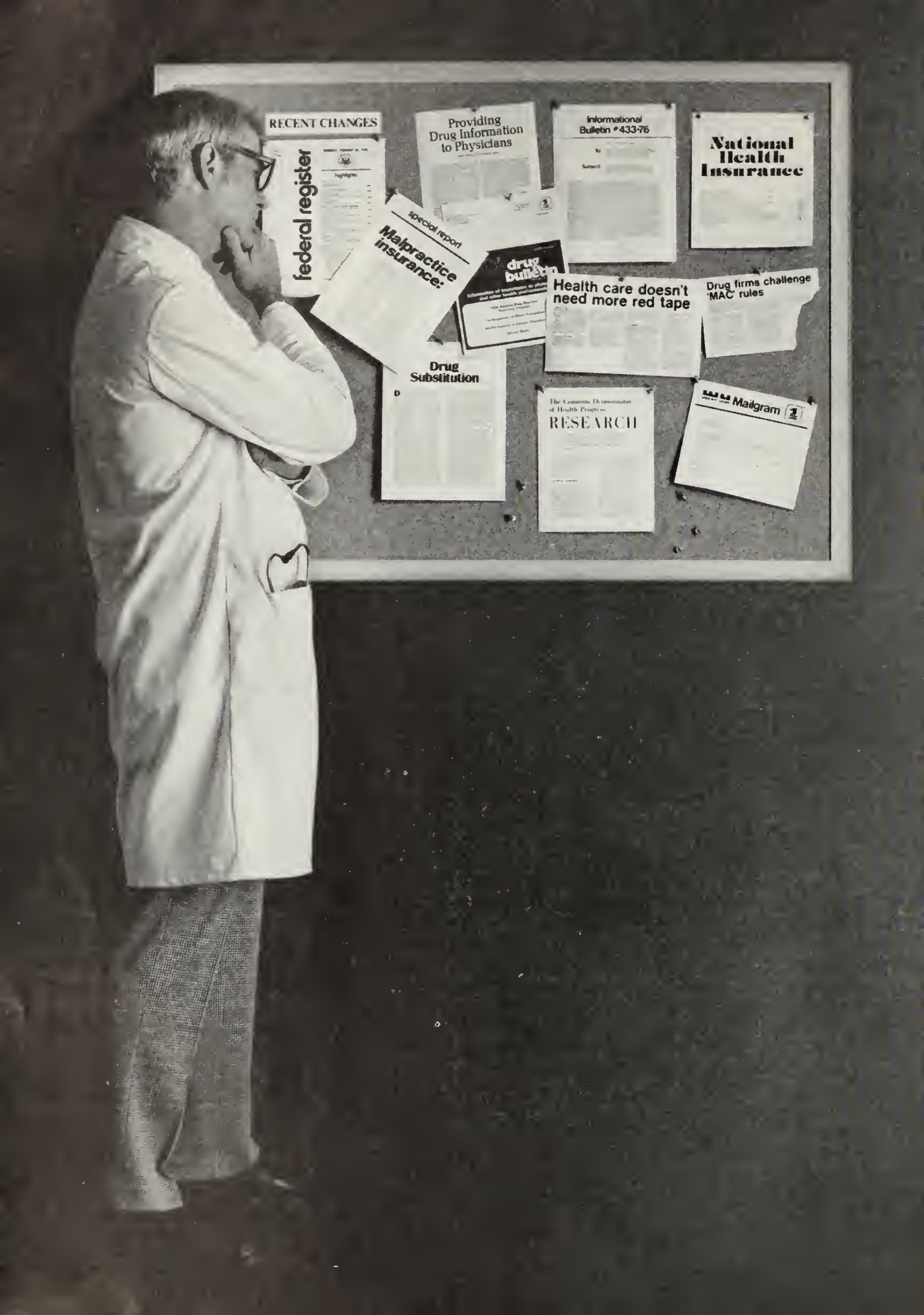
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Health care doesn't need more red tape
Drug firms challenge 'MAC' rules
Drug Substitution
RESEARCH
Mailgram

THERE ARE A LOT OF PEOPLE GETTING BETWEEN YOU AND YOUR PATIENT.

Medicine today is in the spotlight, subjected to all kinds of scrutiny. Your control over patient therapy is being monitored, judged and occasionally abrogated, sometimes by unknown third parties.

The worry is that in the wake of this focus, the relationship between you and your patient will be weakened, without offsetting benefits. Consider three examples:

Drug substitution In most states, pharmacy laws, regulations or professional custom stipulate that your non-generic prescriptions be filled with the precise products you prescribe. But in the last five years, a dozen or more State laws have been changed, permitting the pharmacist in most cases to select a product of the same generic drug to fill any prescription.

Ironically, this dilution of physician control has taken place against a background of growing evidence that purportedly equivalent drug products may be inequivalent, since neither present drug standards nor their enforcement are optimal. In fact, the FDA itself says it has not enforced the same standards for hundreds of "follow-on" products that it had applied to the original NDA approvals. Thus physician control over patient therapy is being eroded with a risk that patients may be exposed to drugs of uncertain quality.

The major advertised claim for substitution is reduced prescription prices for consumers. Yet no documentation of any significant savings has been produced.

MAC Maximum Allowable Cost, MAC for short, is a Federal regulation designed to cut the Government's drug bill by setting price ceilings for drugs dispensed to Medicare and Medicaid patients. Unless the prescriber certifies on the prescription that a particular product is medically necessary, the Government intends to pay only for the cost of the lowest-priced, purportedly-equivalent, generally-available product. The effect of the program may be that elderly and indigent patients will be restricted to products which someone in Washington believes are priced right. Practicing doctors will have little to say about administration of the program, since Government will have absolute authority to make its choices stick.

The drug lag The future of drug and device research depends upon a scientific and regulatory environment that encourages therapeutic innovations. The American pharmaceutical industry annually is spending more than $1 billion of its own funds and evaluating more than 1,200 investigational compounds in clinical research. Disease targets include cancer, atherosclerosis, viruses and central nervous system disorders, among others. But there is a major barrier to the flow of new drugs to your patients: The cost of the research is more than ten times what it was, per product, in 1962; and whereas governmental clearance of new drug applications took six months then, it commonly consumes two years now.

The FDA needs adequate time, of course, to consider data. But it is equally clear that the present approval process contributes to needless delay of needed therapy. That's why the increased efficiency of the drug approval process is vital to all our futures.

If these issues concern you, we suggest that you make your voice heard—among your colleagues and your representatives in State legislatures and in Washington.

It could make a difference in your practice tomorrow.

P·M·A

Pharmaceutical Manufacturers Association
1155 Fifteenth Street, N.W., Washington, D.C. 20005

CATEGORY I CREDIT CONTINUING MEDICAL EDUCATION PROGRAM

The practicing physician is continuously bombarded with brochures and advertisements for Category I credit programs. It is often difficult to determine what programs are truly Category I credit programs.

The AMA recommends that a standard announcement be used for brochures, announcements, etc., concerning the Physician's Recognition Award.

The general format of the announcement is:

"As an organization accredited for continuing medical education, the (NAME OF THE ACCREDITED ORGANIZATION) certifies that this continuing medical education offering meets the criteria for ( ) credit hours in Category I of the Physician's Recognition Award of the American Medical Association, provided it is used and completed as designed."

Please look for this announcement when interested in Category I credit programs.

The practicing physician should be aware that continuing medical education programs in Categories II through VI can also be of great value to the physician's educational program, and should not be overlooked in favor of only Category I credit programs.

ACCREDITED INSTITUTIONS IN KANSAS OFFERING CATEGORY I CREDIT PROGRAMS

(For information on future programs please write to the Director of Medical Education.)

University of Kansas School of Medicine
39th & Rainbow Blvd.
Kansas City, Kansas 66103

Wichita State University Branch of Kansas University School of Medicine
Wichita, Kansas 67219

Menninger Foundation
Box 829
Topeka, Kansas 66601

Hertzler Foundation-Halstead Hospital
Halstead, Kansas 67056

Lawrence Memorial Hospital
325 Maine
Lawrence, Kansas 66044

Shawnee County Medical Foundation
315 W. 4th
Topeka, Kansas 66603

Wesley Medical Center
550 North Hillside
Wichita, Kansas 67214

St. Catherine Hospital
608 N. 5th
Garden City, Kansas 67846

St. Francis Hospital
929 North St. Francis
Wichita, Kansas 67214

Trinity Hospital
1107 Sixth
Dodge City, Kansas 67801

High Plains Medical Education Committee
Ft. Hays State College
Hays, Kansas 67601

Mt. Carmel Medical Center
Centennial and Rouse
Pittsburg, Kansas 66762

Bethany Medical Center
51 North 12th St.
Kansas City, Kansas 66102

Southwest Medical Center
Box 1340
Liberal, Kansas 67901

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1818 Touromee Avenue
Kansas City, Kansas 66102

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When Big Ben looks "a little off"...

Antivert®/25
(meclizine HCl) 25 mg. Tablets
for vertigo*

▪ **Most Widely Prescribed**—Antivert is the most widely prescribed agent for the management of vertigo* associated with diseases affecting the vestibular system such as Menière's disease, labyrinthitis, and vestibular neuronitis.

▪ **Relief of Nausea and Vomiting**—Antivert/25 can relieve the nausea and vomiting often associated with vertigo.*

▪ **Dosage for Vertigo***—The usual adult dosage for Antivert/25 is one tablet t.i.d.

BRIEF SUMMARY OF PRESCRIBING INFORMATION

*INDICATIONS. Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:

Effective: Management of nausea and vomiting and dizziness associated with motion sickness.

Possibly Effective: Management of vertigo associated with diseases affecting the vestibular system.

Final classification of the less than effective indications requires further investigation.

CONTRAINDICATIONS. Administration of Antivert (meclizine HCl) during pregnancy or to women who may become pregnant is contraindicated in view of the teratogenic effect of the drug in rats.

The administration of meclizine to pregnant rats during the 12-15 day of gestation has produced cleft palate in the offspring. Limited studies using doses of over 100 mg./kg./day in rabbits and 10 mg./kg./day in pigs and monkeys did not show cleft palate. Congeners of meclizine have caused cleft palate in species other than the rat.

Meclizine HCl is contraindicated in individuals who have shown a previous hypersensitivity to it.

WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Usage in Children: Clinical studies establishing safety and effectiveness in children have not been done; therefore, usage is not recommended in the pediatric age group.

Usage in Pregnancy: See "Contraindications."

ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

More detailed professional information available on request.

ROERIG Pfizer
A division of Pfizer Pharmaceuticals
New York, New York 10017

Woman's Auxiliary

Dear Kansas Physician,

During January, our President-elect, Mrs. Dean Burnett; our legislative co-chairman, Mrs. John Young; and I attended the AMA Leadership Seminar in Chicago. Speakers included Ann Landers, George Gallup, and Congressional, HEW, and AMA representatives. Excellent information was given pertaining to medicine's future, and it was very interesting to hear different viewpoints from individuals working in both private and governmental areas. This past fall, I started working for the Gallup organization, taking polls on alternate weekends. I feel that I have learned more by asking questions of my respondents than did the Gallup organization. It has been fascinating to read several weeks later that such-and-such percentage of people polled agreed with a particular topic that appeared on a questionnaire. So, I was anxious to meet Mr. Gallup; and the fact that his childhood years were spent 25 miles from my Iowa home also interested me.

Now, all energies are directed toward our first midwinter board meeting scheduled for Salina Hilton, Monday, February 28, at 9:15 AM. The theme is: *A Learning and Sharing Experience.* We are honored to welcome our national president, Mrs. Norman Gardner, of East Hampton, Connecticut; also Mrs. Chester Young, Kansas City, national President-elect; Mrs. Chester Lessenden, Topeka, North Central Regional Vice-president; Emerson Yoder, M.D., Kansas Medical Society President; and Mr. Gary Caruthers, our liaison with the Medical Society. Our featured speaker, the Menninger staff member Dr. Herbert Modlin, has chosen "The Impaired Physician and Stresses on the Medical Marriage" as the topic for his presentation. Another highlight speaker, Mr. Herb Songer, Dean of Students at Marymount College, will speak on "Counseling for Adolescents and High School Students." (Incidentally, Herb was my instructor several years ago at Fort Hays Kansas State College, and his father practices medicine at Lincoln.)

On Sunday afternoon, Mrs. Kermit Wedel and her long-range planning committee will meet to examine our goals, and to formulate future plans, projects, and programs for our state Auxiliary. For early arrivals, a social evening is planned featuring a chicken dinner at the old Brookville Hotel.

The board meeting itself is not going to be a typical business-oriented, sometimes dull and boring meeting, but offers new challenges and shared experiences. The format opens at 9:15 AM, with a few short necessary committee reports, followed by round-table discussion groups featuring successful fund raising projects, information on Kansas nursing homes, Good Cheer program, professional liability, health education, physical fitness, and the long-range plans for the Auxiliary. (Often, members respond more fully in a small group atmosphere.) Mrs. Gardner will present the President's Address; Mrs. Young will discuss her future plans; and Mrs. Lessenden will bring us up-to-date on the Project Bank. Other special features include a LEGS alert skit on legislation, a good communications and public relations symposium, and a film and information on "Violence on TV, and the Impact on Children."

Our board meeting is open to all Auxiliary members, so why not ask your wife to plan to attend! State board members, including all county presidents, are expected to be there; they are invited to bring interested members, and to encourage those who should be interested. All-in-all, we feel we have something to offer for all members, February 28.

Also, anticipated is the two-day KUMC visit in Kansas City on March 14, and the Topeka legislative tour on the 15th. A 12:30 luncheon is scheduled at the medical center on the 14th, followed by staff member presentations and a tour of the facilities. Tuesday, we travel to Topeka to enjoy a guided tour of the Statehouse, and attend House and Senate sessions. Mmes. John Young, George Burkett, and Jack Walker of Kansas City will be our hostesses.

If you have not purchased your copy of *The Kansas Doctor,* please mail $10 to Mrs. John Yulich, 2106 Chester Court, Kansas City, KS 66106, and your copy will be mailed to you. If you have not made a contribution to AMA-ERF this year, she will also be happy to hear from you.

This is my ninth letter for the JOURNAL and to date, the only comment I have received has been from one Auxiliary member. Frankly, I wonder if any physicians take time to read my ramblings. At least, I thought one Barton county physician would say something; especially since I believe I am in good standing with the membership. Perhaps, this column should be discontinued in the future. But we want you to know what the members are doing all over our state, and hope that most of you are truly aware that our members are sincere, dedicated, loyal, and strong supporters of their community activities and service projects, to help make life more pleasant for others.

Sincerely,
Jean Cavanaugh
President
Woman's Auxiliary to the
Kansas Medical Society

Famous Fighters

NEOSPORIN® Ointment
(polymyxin B-bacitracin-neomycin)
is a famous fighter, too.

Provides overlapping, broad-spectrum antibacterial action to help combat infection caused by common susceptible pathogens (including staph and strep).

Each gram contains: Aerosporin® brand Polymyxin B Sulfate 5,000 units; zinc bacitracin 400 units; neomycin sulfate 5 mg (equivalent to 3.5 mg neomycin base); special white petrolatum qs. in tubes of 1 oz and 1/2 oz and 1/32 oz (approx.) foil packets.

INDICATIONS: Therapeutically (as an adjunct to systemic therapy when indicated) for topical infections, primary or secondary, due to susceptible organisms, as in: • infected burns, skin grafts, surgical incisions, otitis externa • primary pyodermas (impetigo, ecthyma, sycosis vulgaris, paronychia) • secondarily infected dermatoses (eczema, herpes, and seborrheic dermatitis) • traumatic lesions, inflamed or suppurating as a result of bacterial infection.

Prophylactically, the ointment may be used to prevent bacterial contamination in burns, skin grafts, incisions, and other clean lesions. For abrasions, minor cuts and wounds accidentally incurred, its use may prevent the development of infection and permit wound healing. **CONTRAINDICATIONS:** Not for use in the eyes or external ear canal if the eardrum is perforated. This product is contraindicated in those individuals who have shown hypersensitivity to any of the components. **WARNING:** Because of the potential hazard of nephrotoxicity and ototoxicity due to neomycin, care should be exercised when using this product in treating extensive burns, trophic ulceration and other extensive conditions where absorption of neomycin is possible. In burns where more than 20 percent of the body surface is affected, especially if the patient has impaired renal function or is receiving other aminoglycoside antibiotics concurrently, not more than one application a day is recommended. **PRECAUTIONS:** As with other antibacterial preparations, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs. **ADVERSE REACTIONS:** Neomycin is a not uncommon cutaneous sensitizer. Articles in the current literature indicate an increase in the prevalence of persons allergic to neomycin. Ototoxicity and nephrotoxicity have been reported (see Warning section).

Complete literature available on request from Professional Services Dept. PML.

Wellcome

Burroughs Wellcome Co.
Research Triangle Park
North Carolina 27709

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Tax deductible vacations for medical professionals. Over 500 listings of national/international meetings in the medical sciences for 1977. Send $10 to: Professional Calendars, PO Box 40083, Washington, D. C. 20016.

Family practice for sale in a small but prospering community. Fully equipped. Contact William F. Tyler, M.D., Box 600, Caney, KS 67333 (316-879-2167).

Doctor, here are 100% deductible retirement plans!

You can now save up to $7,500 per year or 15% of earned income (whichever is less) in a KEOGH RETIREMENT PLAN at Capitol Federal earning up to 7.75% per year and deduct the entire amount from your taxable income—even the interest earned is tax-sheltered until withdrawn during retirement, beginning as early as age 59½ • Or you may use the similar IRA PLAN contributing up to $1,500 per year or 15% of earned income (whichever is less) • You may also use our Pre-Authorized Payment system to make your deposits automatic • Let us help you set up your retirement plan now with FSLIC insured safety.

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DOCTORS ARE TALKING ABOUT THE
PRACTICAL WAY TO LOWER CHOLESTEROL

Choloxin®
(Sodium Dextrothyroxine)

And for good reasons. Diet alone doesn't always work. CHOLOXIN® (sodium dextrothyroxine) has proved itself to be an effective cholesterol lowering adjunct to diet in euthyroid, non-cardiac patients. It has undergone ten years of clinical trials and eight years of practice. The clinical trials consisted of 337 clinical studies involving over 3,000 hypercholesterolemic non-cardiac patients. It is among the most thoroughly evaluated drugs ever presented to physicians.

Practical, too, is the one-tablet-a-day dosage regimen. It encourages patient cooperation, and it's economical for long-term therapy.

CHOLOXIN (sodium dextrothyroxine) lowers cholesterol 15% to 35%, and keeps it down with most patients. *(Data on file, Flint Laboratories).*

Interested in receiving more information about lipid lowering? Write us or contact your Flint representative. We'll be glad to supply you with a complete product portfolio and samples for your evaluation.

NOTE: See following page for full prescribing information.

AN IMPORTANT NOTE:
It has not been established whether the drug-induced lowering of serum cholesterol or lipid levels has a detrimental, beneficial, or no effect on the morbidity or mortality due to atherosclerosis or coronary heart disease. Several years will be required before current investigations will yield an answer to this question.

FLINT LABORATORIES
DIVISION OF TRAVENOL LABORATORIES, INC.
Deerfield, Illinois 60015

Choloxin® (Sodium Dextrothyroxine)

Effectively Lowers Elevated Cholesterol With Convenient Once-A-Day Dosage

Four strengths 1, 2, 4, and 6 mg are available making the scored tablet regimen a flexible dosage system. And, for most patients, CHOLOXIN tablets offer once-a-day dosage

CHOLOXIN® (sodium dextrothyroxine) Single-Tablet-A-Day Dosage Schedules

See prescribing information in package insert reproduced below.

	Starting Dosage	Increased Monthly by	Usual Maintenance	Maximal Recommended
Adult Hypercholesterolemic	1.0-2.0 mg.	1.0-2.0 mg.	4.0-8.0 mg.	4.0-8.0 mg.
Pediatric Hypercholesterolemic	0.05 mg./kg. body weight	0.05 mg./kg.	0.1 mg./kg. body weight	4.0 mg.
Hypothyroid Cardiac	1.0 mg.	1.0 mg.	4.0 mg.	4.0 mg.

Choloxin®
(Sodium Dextrothyroxine)

Description

CHOLOXIN (sodium dextrothyroxine) is the sodium salt of the dextrorotatory isomer of thyroxine. It is chemically described as D-3,5,3′,5′-tetraiodothyronine sodium salt.

Actions

The predominant effect of CHOLOXIN (sodium dextrothyroxine) is the reduction of serum cholesterol levels in hyperlipidemic patients. Beta lipoprotein and triglyceride fractions may also be reduced from previously elevated levels.

Most of the available evidence indicates that CHOLOXIN (sodium dextrothyroxine) stimulates the liver to increase catabolism and excretion of cholesterol and its degradation products via the biliary route into the feces. Cholesterol synthesis is not inhibited and abnormal metabolic end-products do not accumulate in the blood.

Indications

This is not an innocuous drug. Strict attention should be paid to the indications and contraindications.

CHOLOXIN (sodium dextrothyroxine) is an antilipidemic agent used as an adjunct to diet and other measures for the reduction of elevated serum cholesterol (low density lipoproteins) in euthyroid patients with no known evidence of organic heart disease.

The drug is also indicated in the treatment of hypothyroidism in patients with cardiac disease who cannot tolerate other types of thyroid medication.

Before prescribing, note the following: Results from a randomized clinical study have indicated a possible adverse effect when CHOLOXIN (sodium dextrothyroxine) is administered to a patient receiving a digitalis preparation. There may be an additive effect. This additive effect may possibly stimulate the myocardium excessively, in patients with significant myocardial impairment. CHOLOXIN (sodium dextrothyroxine) dosage should not exceed 4 mg per day when the patient is receiving a digitalis preparation concomitantly. Careful monitoring of the total effect of both drugs is important.

It has not been established whether the drug-induced lowering of serum cholesterol or lipid levels has a detrimental, beneficial, or no effect on the morbidity or mortality due to atherosclerosis or coronary heart disease. Several years will be required before current investigations will yield an answer to this question.

Contraindications

The administration of CHOLOXIN (sodium dextrothyroxine) to euthyroid patients with one or more of the following conditions is contraindicated:

1. Known organic heart disease, including angina pectoris; history of myocardial infarction; cardiac arrhythmia or tachycardia, either active or in patients with demonstrated propensity for arrhythmias; rheumatic heart disease; history of congestive heart failure; and decompensated or borderline compensated cardiac status.
2. Hypertensive states (other than mild, labile systolic hypertension).
3. Advanced liver or kidney disease.
4. Pregnancy.
5. Nursing mothers.
6. History of iodism.

Warnings

CHOLOXIN (sodium dextrothyroxine) may potentiate the effects of anticoagulants on prothrombin time. Reductions of anticoagulant dosage by as much as 30% have been required in some patients. Consequently, the dosage of anticoagulants should be reduced by one-third upon initiation of CHOLOXIN therapy and the dosage subsequently readjusted on the basis of prothrombin time. The prothrombin time of patients receiving anticoagulant therapy concomitantly with CHOLOXIN therapy should be observed as frequently as necessary, but at least weekly, during the first few weeks of treatment.

In the surgical patient, it is wise to consider withdrawal of the drug two weeks prior to surgery if the use of anticoagulants during surgery is contemplated.

When CHOLOXIN (sodium dextrothyroxine) is used as thyroid replacement therapy in hypothyroid patients with concomitant coronary artery disease (especially those with a history of angina pectoris or myocardial infarction) or other cardiac disease, treatment should be initiated with care. Special consideration of the dosage schedule of CHOLOXIN (sodium dextrothyroxine) is required. This drug may increase the oxygen requirements of the myocardium, especially at high dosage levels. Treated subjects with coronary artery disease must be seen at frequent intervals. If aggravation of angina or increased myocardial ischemia, cardiac failure, or clinically significant arrhythmia develops during the treatment of hypothyroid patients, the dosage should be reduced or the drug discontinued.

Special consideration must be given to the dosage of other thyroid medications used concomitantly with CHOLOXIN (sodium dextrothyroxine). As with all thyroactive drugs, hypothyroid patients are more sensitive to a given dose of CHOLOXIN (sodium dextrothyroxine) than euthyroid patients.

Epinephrine injection in patients with coronary artery disease may precipitate an episode of coronary insufficiency. This condition may be enhanced in patients receiving thyroid analogues. These phenomena should be kept in mind when catecholamine injections are required in sodium dextrothyroxine-treated patients with coronary artery disease.

Since the possibility of precipitating cardiac arrhythmias during surgery may be greater in patients treated with thyroid hormones, it may be wise to discontinue CHOLOXIN (sodium dextrothyroxine) in euthyroid patients at least two weeks prior to an elective operation. During emergency surgery in euthyroid patients, and in surgery in hypothyroid patients in whom it may not be advisable or possible to withdraw therapy, the patients should be carefully observed.

There are reports that sodium dextrothyroxine in diabetic patients is capable of increasing blood sugar levels with a resultant increase in requirements of insulin or oral hypoglycemic agents. Special attention should be paid to parameters necessary for good control of the diabetic state in dextrothyroxine-treated subjects and to dosage requirements of insulin or other antidiabetic drugs. If sodium dextrothyroxine is later withdrawn from patients who had required an increase of insulin (or oral hypoglycemic agents) dosage during its administration, the dosage of antidiabetic drugs should be reduced and adjusted to maintain good control of the diabetic state.

When either or both impaired liver or kidney function are present, the advantages of CHOLOXIN (sodium dextrothyroxine) therapy must be weighed against the possibility of deleterious results.

Usage in Women of Childbearing Age

Women of childbearing age with familial hypercholesterolemia or hyperlipemia should not be deprived of the use of this drug; it can be given to those patients exercising strict birth control procedures. Since pregnancy may occur despite the use of birth control procedures, administration of CHOLOXIN (sodium dextrothyroxine) to women of this age group should be undertaken only after weighing the possible risk to the fetus against the possible benefits to the mother. Teratogenic studies in two animal species have resulted in no abnormalities in the offspring.

Precautions

It is expected that patients on dextrothyroxine therapy will show greatly increased serum protein-bound-iodine levels. These increased serum PBI values are evidence of absorption and transport of the drug, and should NOT be interpreted as evidence of hypermetabolism; similarly, they may not be used for titrating the effective dose of CHOLOXIN (sodium dextrothyroxine). PBI values in the range of 10 to 25 mcg% in treated patients are common.

If signs or symptoms of iodism develop during CHOLOXIN (sodium dextrothyroxine) therapy, the drug should be discontinued.

A few children with familial hypercholesterolemia have been treated with CHOLOXIN for periods of one year or longer with no adverse effects on growth. However, it is recommended that the drug be continued in patients in this age group only if a significant serum cholesterol-lowering effect is observed.

Adverse Reactions

The side effects attributed to dextrothyroxine therapy are, for the most part, due to increased metabolism, and may be minimized by following the recommended dosage schedule. Adverse effects are least commonly seen in euthyroid patients with no signs or symptoms of organic heart disease; the incidence of adverse effects is increased in hypothyroid patients, and is highest in those patients with organic heart disease superimposed on the hypothyroid state.

In the absence of known organic heart disease, some cardiac changes may be precipitated during sodium dextrothyroxine therapy. In addition to angina pectoris, arrhythmia consisting of extrasystoles, ectopic beats, or supraventricular tachycardia, ECG evidence of ischemic myocardial changes and increase in heart size have been observed. Myocardial infarctions, both fatal and non-fatal, have occurred, but these are not unexpected in untreated patients in the age groups studied. It is not known whether any of these infarcts were drug related.

Changes in clinical status that may be related to the metabolic action of the drug include the development of insomnia, nervousness, palpitations, tremors, loss of weight, lid lag, sweating, flushing, hyperthermia, hair loss, diuresis, and menstrual irregularities. Gastrointestinal complaints during therapy have included dyspepsia, nausea and vomiting, constipation, diarrhea, and decrease in appetite.

Other side effects reported to be associated with CHOLOXIN (sodium dextrothyroxine) therapy include the development of headache, changes in libido (increase or decrease), hoarseness, tinnitus, dizziness, peripheral edema, malaise, tiredness, visual disturbances, psychic changes, paresthesia, muscle pain, and various bizarre subjective complaints. Skin rashes, including a few which appeared to be due to iodism, and itching have been attributed to dextrothyroxine by some investigators. Gallstones have been discovered in occasional dextrothyroxine-treated patients and cholestatic jaundice has occurred in one patient, although its relationship to CHOLOXIN therapy was not established.

In several instances, the previously existing conditions of the patient appeared to continue or progress during the administration of CHOLOXIN (sodium dextrothyroxine); a worsening of peripheral vascular disease, sensorium, exophthalmos, and retinopathy have been reported.

CHOLOXIN (sodium dextrothyroxine) potentiates the effects of anticoagulants, such as warfarin or Oicumarol, on prothrombin time, thus indicating a decrease in the dosage requirements of the anticoagulants. On the other hand, dosage requirements of antidiabetic drugs have been reported to be increased during dextrothyroxine therapy (see WARNINGS section).

Dosage and Administration

For **adult** euthyroid hypercholesterolemic patients, the recommended maintenance dose of CHOLOXIN (sodium dextrothyroxine) is 4 to 8 mg per day. The initial daily dose should be 1 to 2 mg to be increased in 1 to 2 mg increments at intervals of not less than one month to a maximum level of 4 to 8 mg daily, if that dosage level is indicated to effect the desired lowering of serum cholesterol.

When used as partial or complete substitution therapy for levothyroxine in hypothyroid patients with cardiac disease who cannot tolerate other types of thyroid medication, the initial daily dose should be 1 mg to be increased in 1 mg increments at intervals of not less than one month to a maximum level of 4 to 8 mg daily, preferably the lower dosage. The maximum in patients receiving digitalis therapy is 4 mg.

For **pediatric** hypercholesterolemic patients, the recommended maintenance dose of CHOLOXIN (sodium dextrothyroxine) is approximately 0.1 mg (100 mcg) per kilogram. The initial daily dosage should be approximately 0.05 mg (50 mcg) per kilogram to be increased in up to 0.05 mg (50 mcg) per kilogram increments at monthly intervals. The recommended maximal dose is 4 mg daily, if that dosage is indicated to effect the desired lowering of serum cholesterol.

If new signs or symptoms of cardiac disease develop during the treatment period, the drug should be withdrawn.

How Supplied

CHOLOXIN (sodium dextrothyroxine) is supplied in prescription packages of scored 1, 2, 4, and 6 mg tablets.

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THE Journal of the Kansas Medical Society

MARCH
1977

VOL. LXXVIII
NO. III

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Valium (diazepam) is a benzodiazepine with a character all its own. Pharmacologically, it has been described as more potent mg-per-mg than other available anxiolytic benzodiazepines. Pharmacokinetically, only Valium provides active *diazepam* as well as the active metabolites 3-hydroxydiazepam, desmethyldiazepam and oxazepam.

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Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

***Usage in Pregnancy:* Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported, should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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Volume LXXVIII, Number 3—March, 1977

The JOURNAL of the KANSAS MEDICAL SOCIETY

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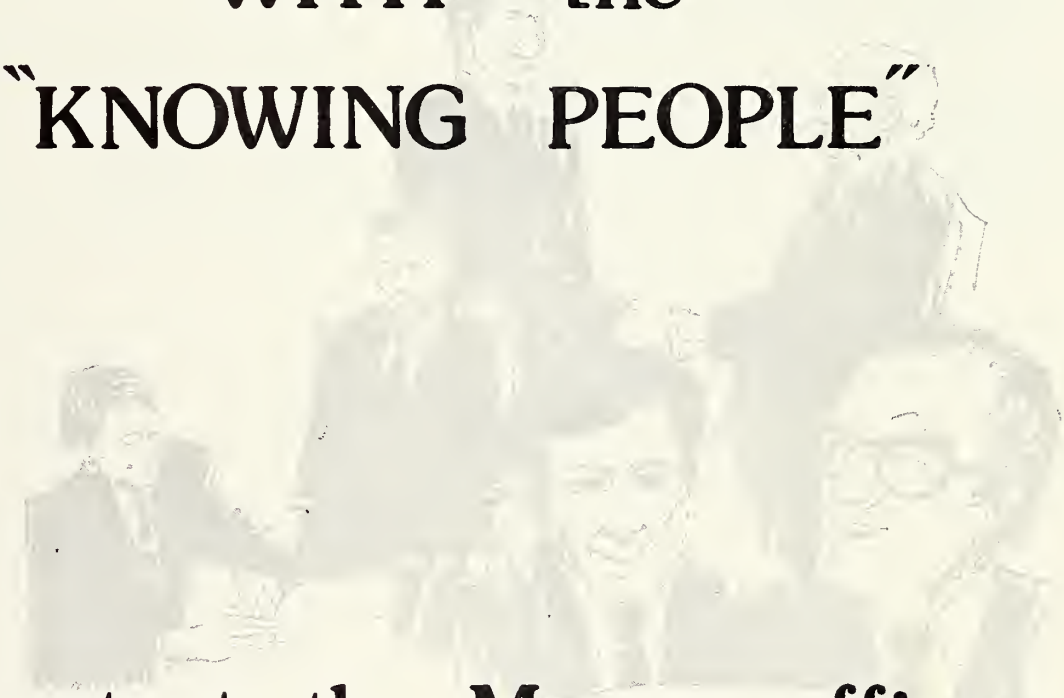

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Tedral: *Adults*—One or two tablets every 4 hours. *Children*—(Over 60 lb) one-half the adult dose.

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NOMINATING COMMITTEE

The Nominating Committee of the Kansas Medical Society met on Sunday, January 16, 1977, and submits to the House of Delegates the following list of nominations for the elective offices of the Society. Wherever more than one nomination appear, these are presented in alphabetical order. A very brief biography accompanies each name.

President-Elect

Warren E. Meyer, M.D., Wichita. Born in 1927. Graduated from Northwestern University School of Medicine in 1951. Practices General Surgery. Is currently serving at First Vice-President.

First Vice-President

Donald D. Goering, M.D., Salina. Born in 1931. Graduated from the University of Kansas School of Medicine in 1956. Is engaged in Family Practice. Is now serving as Second Vice-President.

Second Vice-President

Vernon W. Filley, M.D., Pratt. Born in 1913. Graduated from the Nebraska University School of Medicine in 1943. Practices General Surgery. Is currently serving as Councilor.

Phillip A. Godwin, M.D., Lawrence. Born in 1928. Graduated from the University of Kansas School of Medicine in 1955. In practice of Anesthesiology. Is currently serving as Constitutional Secretary.

Chester M. Lessenden, M.D., Topeka. Born in 1918. Graduated from the University of Kansas School of Medicine in 1943. Practices Dermatology. Is past chairman of Kansas Dermatology Society. Has served as KMS Treasurer.

Constitutional Secretary

Dean T. Collins, M.D., Topeka. Born in 1928. Graduated from the University of Kansas School of Medicine in 1955. Is engaged in the practice of Psychiatry. Is active in KMS committee work.

Jack R. Cooper, M.D., Shawnee Mission. Born in 1917. Graduated from the Ohio State University School of Medicine in 1943. Practices Neurosurgery. Is active in KMS committee work.

Treasurer

Ralph H. Baehr, M.D., Topeka. Born in 1935. Graduated from Northwestern University School of Medicine in 1959. Is engaged in the practice of Radiology. Is active in KMS committee work.

William K. Walker, M.D., Sedan. Born in 1928. Graduated from the University of Kansas School of Medicine in 1945. Is in Family Practice. Is active in KMS committee work.

Speaker

Clair C. Conrad, M.D., Dodge City. Born in 1927. Graduated from the University of Kansas School of Medicine in 1955. Practices Internal Medicine. Is now serving as Speaker of the House of Delegates and AMA Delegate.

V. Dean Schwartz, M.D., Wichita. Born in 1924. Graduated from the University of Kansas School of Medicine in 1948. Is in Family Practice. Serves as Parliamentarian for the House of Delegates.

(Continued on page 151)

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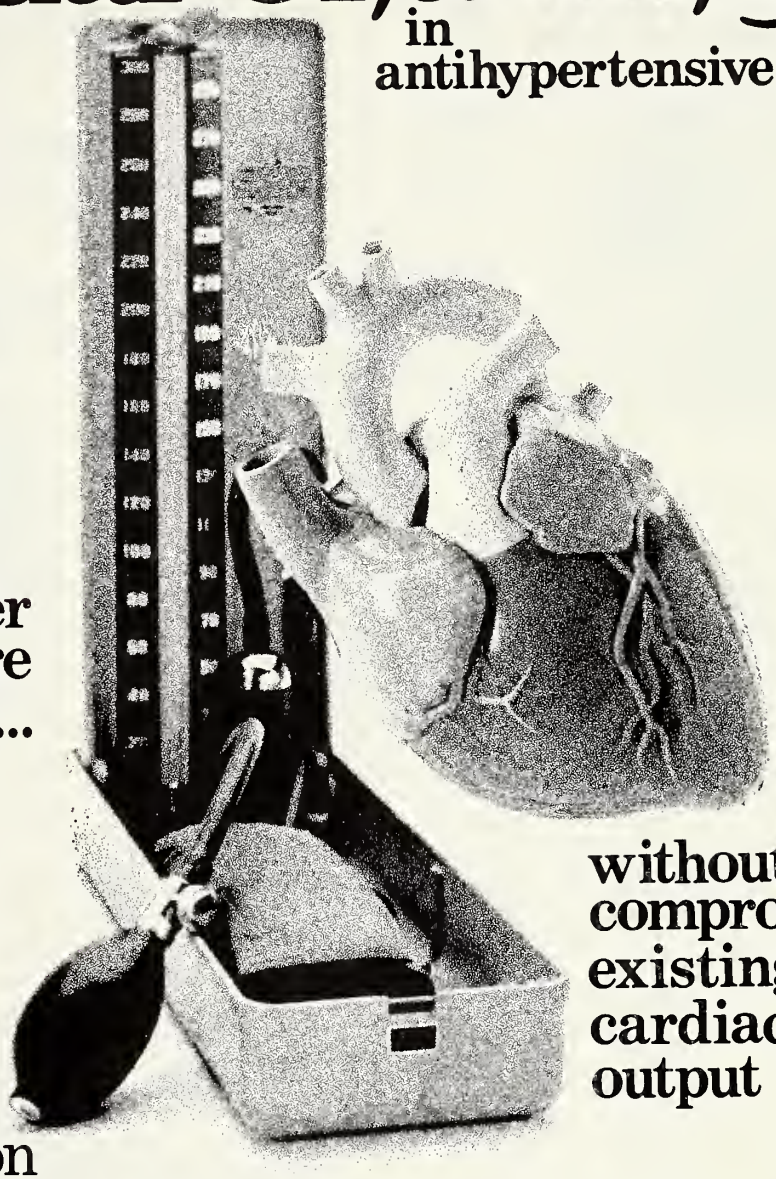

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For a brief summary of prescribing information, please see following page.

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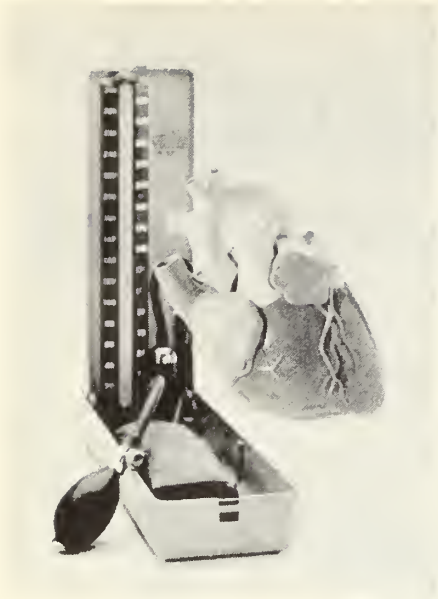

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Warnings: It is important to recognize that a positive Coombs test, hemolytic anemia, and liver disorders may occur with methyldopa therapy. The rare occurrences of hemolytic anemia or liver disorders could lead to potentially fatal complications unless properly recognized and managed. Read this section carefully to understand these reactions.

With prolonged methyldopa therapy, 10% to 20% of patients develop a positive direct Coombs test, usually between 6 and 12 months of therapy. Lowest incidence is at daily dosage of 1 g or less. This on rare occasions may be associated with hemolytic anemia, which could lead to potentially fatal complications. One cannot predict which patients with a positive direct Coombs test may develop hemolytic anemia. Prior existence or development of a positive direct Coombs test is not in itself a contraindication to use of methyldopa. If a positive Coombs test develops during methyldopa therapy, determine whether hemolytic anemia exists and whether the positive Coombs test may be a problem. For example, in addition to a positive direct Coombs test there is less often a positive indirect Coombs test which may interfere with cross matching of blood.

At the start of methyldopa therapy, it is desirable to do a blood count (hematocrit, hemoglobin, or red cell count) for a baseline or to establish whether there is anemia. Periodic blood counts should be done during therapy to detect hemolytic anemia. It may be useful to do a direct Coombs test before therapy and at 6 and 12 months after the start of therapy. If Coombs-positive hemolytic anemia occurs, the cause may be methyldopa and the drug should be discontinued. Usually the anemia remits promptly. If not, corticosteroids may be given and other causes of anemia should be considered. If the hemolytic anemia is related to methyldopa, the drug should not be reinstituted. When methyldopa causes Coombs positivity alone or with hemolytic anemia, the red cell is usually coated with gamma globulin of the IgG (gamma G) class only. The positive Coombs test may not revert to normal until weeks to months after methyldopa is stopped.

Should the need for transfusion arise in a patient receiving methyldopa, both a direct and an indirect Coombs test should be performed on his blood. In the absence of hemolytic anemia, usually only the direct Coombs test will be positive. A positive direct Coombs test alone will not interfere with typing or cross matching. If the indirect Coombs test is also positive, problems may arise in the major cross match and the assistance of a hematologist or transfusion expert will be needed.

Fever has occurred within first 3 weeks of therapy, sometimes with eosinophilia or abnormalities in liver function tests, such as serum alkaline phosphatase, serum transaminases (SGOT, SGPT), bilirubin, cephalin cholesterol flocculation, prothrombin time, and bromsulphalein retention. Jaundice, with or without fever, may occur, with onset usually in the first 2 to 3 months of therapy. In some patients the findings are consistent with those of cholestasis. Rarely fatal hepatic necrosis has been reported. These hepatic changes may represent hypersensitivity reactions; periodic determination of hepatic function should be done particularly during the first 6 to 12 weeks of therapy or whenever an unexplained fever occurs. If fever and abnormalities in liver function tests or jaundice appear, stop therapy with methyldopa. If caused by methyldopa, the temperature and abnormalities in liver function characteristically have reverted to normal when the drug was discontinued. Methyldopa should not be reinstituted in such patients.

Rarely, a reversible reduction of the white blood cell count with primary effect on granulocytes has been seen. Reversible thrombocytopenia has occurred rarely. When used with other antihypertensive drugs, potentiation of antihypertensive effect may occur. Patients should be followed carefully to detect side reactions or unusual manifestations of drug idiosyncrasy.

Use in Pregnancy: Use of any drug in women who are or may become pregnant requires that anticipated benefits be weighed against possible risks; possibility of fetal injury can not be excluded.

Precautions: Should be used with caution in patients with history of previous liver disease or dysfunction (see Warnings). May interfere with measurement of: uric acid by the phosphotungstate method, creatinine by the alkaline picrate method, and SGOT by colorimetric methods. Since methyldopa causes fluorescence in urine samples at the same wavelengths as catecholamines, falsely high levels of urinary catecholamines may be reported. This will interfere with the diagnosis of pheochromocytoma. It is important to recognize this phenomenon before a patient with a possible pheochromocytoma is subjected to surgery. Methyldopa is not recommended for patients with pheochromocytoma. Urine exposed to air after voiding may darken because of breakdown of methyldopa or its metabolites.

Stop drug if involuntary choreoathetotic movements occur in patients with severe bilateral cerebrovascular disease. Patients may require reduced doses of anesthetics; hypotension occurring during anesthesia usually can be controlled with vasopressors. Hypertension has recurred after dialysis in patients on methyldopa because the drug is removed by this procedure.

Adverse Reactions: *Central nervous system:* Sedation, headache, asthenia or weakness, usually early and transient; dizziness, lightheadedness, symptoms of cerebrovascular insufficiency, paresthesias, parkinsonism, Bell's palsy, decreased mental acuity, involuntary choreoathetotic movements; psychic disturbances, including nightmares and reversible mild psychoses or depression.

Cardiovascular: Bradycardia, aggravation of angina pectoris. Orthostatic hypotension (decrease daily dosage). Edema (and weight gain) usually relieved by use of a diuretic. (Discontinue methyldopa if edema progresses or signs of heart failure appear.)

Gastrointestinal: Nausea, vomiting, distention, constipation, flatus, diarrhea, mild dryness of mouth, sore or "black" tongue, pancreatitis, sialadenitis.

Hepatic: Abnormal liver function tests, jaundice, liver disorders.

Hematologic: Positive Coombs test, hemolytic anemia. Leukopenia, granulocytopenia, thrombocytopenia.

Allergic: Drug-related fever, myocarditis.

Other: Nasal stuffiness, rise in BUN, breast enlargement, gynecomastia, lactation, impotence, decreased libido, dermatologic reactions including eczema and lichenoid eruptions, mild arthralgia, myalgia.

Note: Initial adult dosage should be limited to 500 mg daily when given with antihypertensives other than thiazides. Tolerance may occur, usually between second and third month of therapy; increased dosage or adding a thiazide frequently restores effective control. Patients with impaired renal function may respond to smaller doses. Syncope in older patients may be related to increased sensitivity and advanced arteriosclerotic vascular disease; this may be avoided by lower doses.

How Supplied: Tablets, containing 125 mg methyldopa each, in bottles of 100; Tablets, containing 250 mg methyldopa each, in single-unit packages of 100 and bottles of 100 and 1000; Tablets, containing 500 mg methyldopa each, in single-unit packages of 100 and bottles of 100.

For more detailed information, consult your MSD representative or see full prescribing information. Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, Pa. 19486 J6AM07(707)

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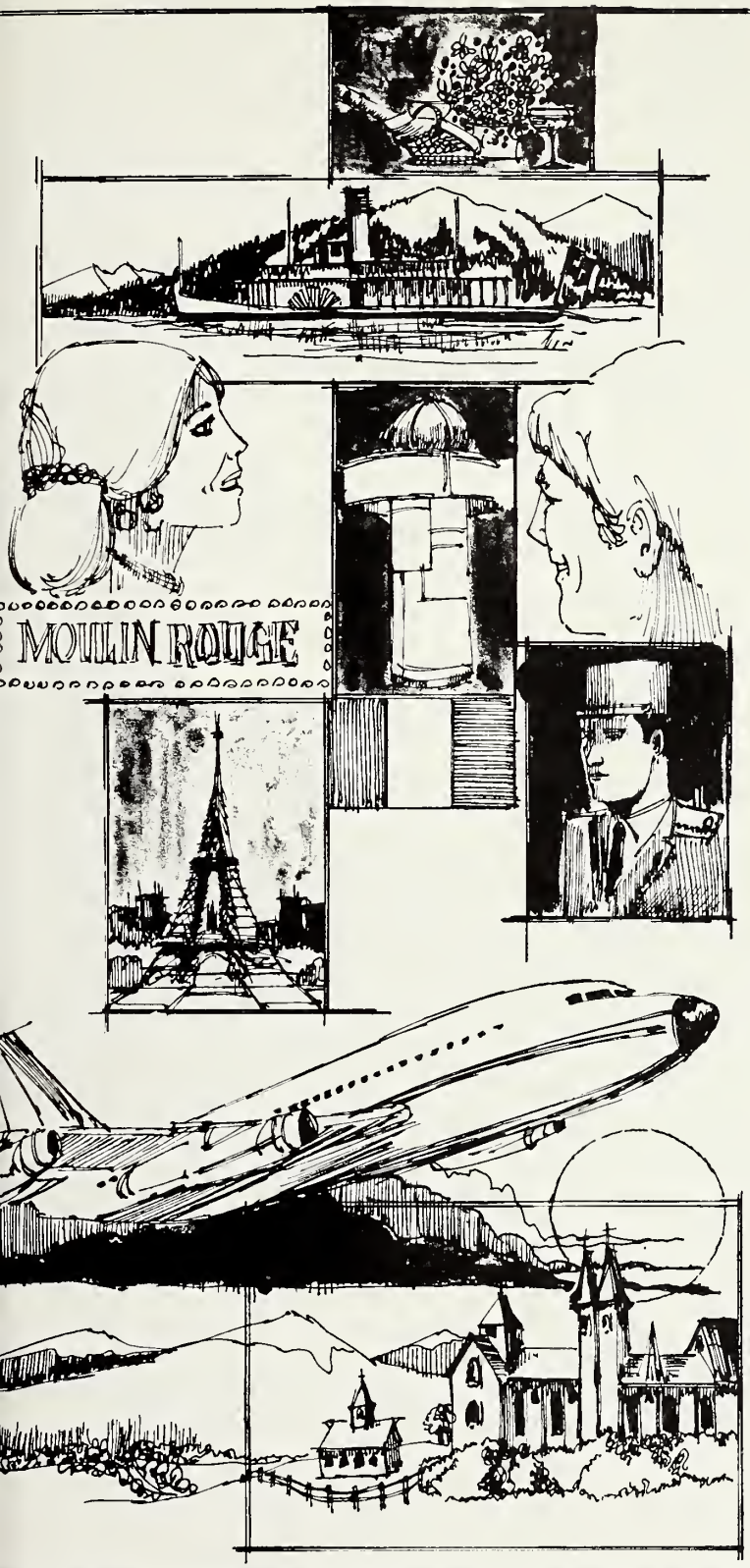

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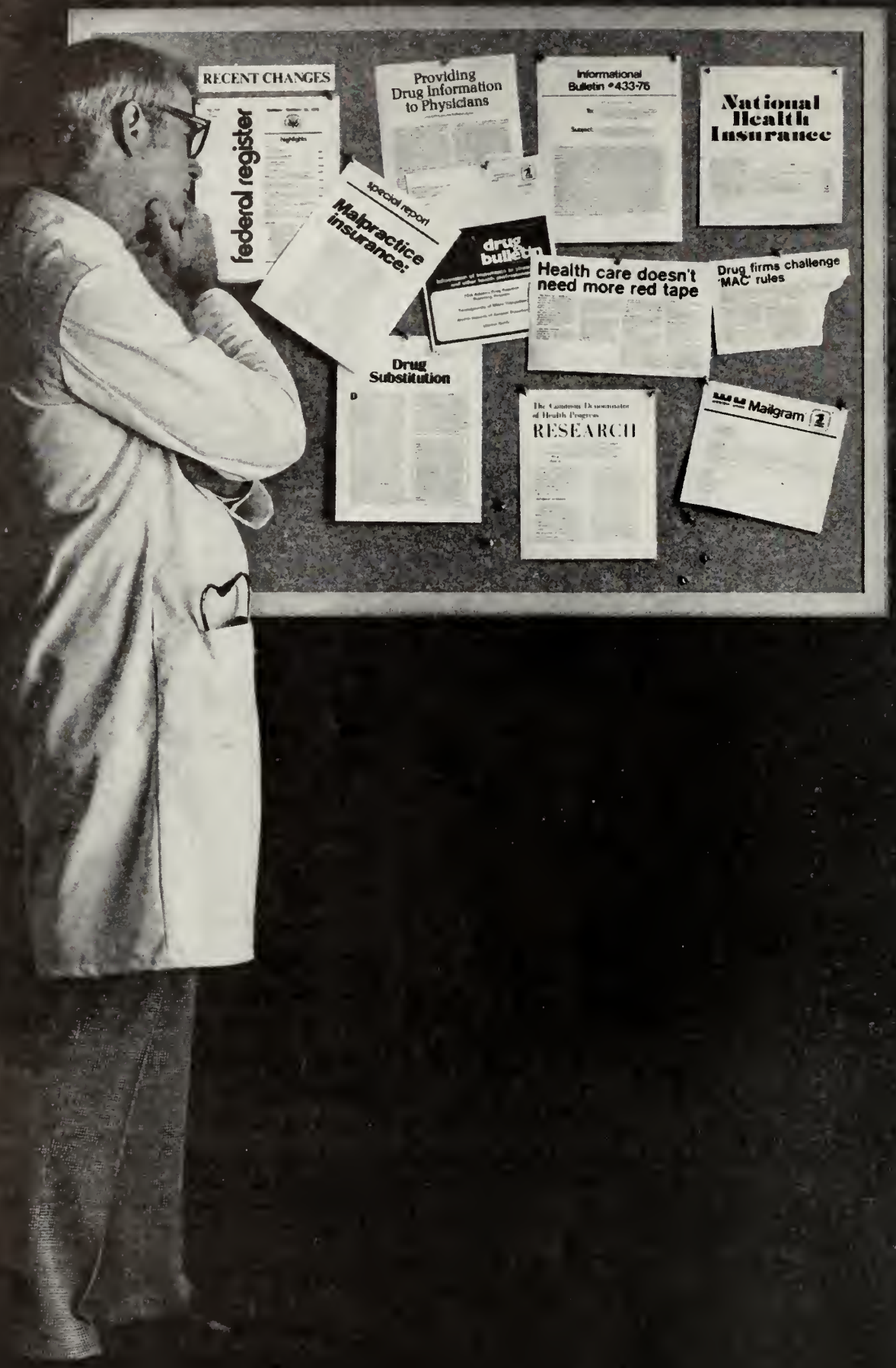
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THERE ARE A LOT OF PEOPLE GETTING BETWEEN YOU AND YOUR PATIENT.

Medicine today is in the spotlight, subjected to all kinds of scrutiny. Your control over patient therapy is being monitored, judged and occasionally abrogated, sometimes by unknown third parties.

The worry is that in the wake of this focus, the relationship between you and your patient will be weakened, without offsetting benefits. Consider three examples:

Drug substitution In most states, pharmacy laws, regulations or professional custom stipulate that your non-generic prescriptions be filled with the precise products you prescribe. But in the last five years, a dozen or more State laws have been changed, permitting the pharmacist in most cases to select a product of the same generic drug to fill any prescription.

Ironically, this dilution of physician control has taken place against a background of growing evidence that purportedly equivalent drug products may be inequivalent, since neither present drug standards nor their enforcement are optimal. In fact, the FDA itself says it has not enforced the same standards for hundreds of "follow-on" products that it had applied to the original NDA approvals. Thus physician control over patient therapy is being eroded with a risk that patients may be exposed to drugs of uncertain quality.

The major advertised claim for substitution is reduced prescription prices for consumers. Yet no documentation of any significant savings has been produced.

MAC Maximum Allowable Cost, MAC for short, is a Federal regulation designed to cut the Government's drug bill by setting price ceilings for drugs dispensed to Medicare and Medicaid patients. Unless the prescriber certifies on the prescription that a particular product is medically necessary, the Government intends to pay only for the cost of the lowest-priced, purportedly-equivalent, generally-available product. The effect of the program may be that elderly and indigent patients will be restricted to products which someone in Washington believes are priced right. Practicing doctors will have little to say about administration of the program, since Government will have absolute authority to make its choices stick.

The drug lag The future of drug and device research depends upon a scientific and regulatory environment that encourages therapeutic innovations. The American pharmaceutical industry annually is spending more than $1 billion of its own funds and evaluating more than 1,200 investigational compounds in clinical research. Disease targets include cancer, atherosclerosis, viruses and central nervous system disorders, among others. But there is a major barrier to the flow of new drugs to your patients: The cost of the research is more than ten times what it was, per product, in 1962; and whereas governmental clearance of new drug applications took six months then, it commonly consumes two years now.

The FDA needs adequate time, of course, to consider data. But it is equally clear that the present approval process contributes to needless delay of needed therapy. That's why the increased efficiency of the drug approval process is vital to all our futures.

If these issues concern you, we suggest that you make your voice heard—among your colleagues and your representatives in State legislatures and in Washington.

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Thirty-First Annual University of Kansas School of Medicine Issue

The Dean's Letter—1977

The University of Kansas Medical Center

ROBERT B. KUGEL, M.D.,* ***Kansas City, Kansas***

It is a privilege to have the opportunity to address the readers of *The Journal of the Kansas Medical Society*. During the past several months, I have had the pleasure of getting to know many physicians across the state and always great interest has been expressed to me about the programs and activities of the School of Medicine and the other units in the College of Health Sciences. By now, most everyone knows that the College of Health Sciences is composed of three schools: Medicine, Nursing, and Allied Health. The School of Medicine is in two parts—one in Kansas City and the other in Wichita.

In Kansas, as in many other places in the nation, there has been a growing concern about the distribution of health manpower. The question of total numbers of individuals in the health field seems to be resolved. We have enough physicians; however, the concern for locating physicians more evenly throughout the state has occupied a great deal of time and attention on the part of many members of the faculty and the administration of the College of Health Sciences.

Various programs and activities have been developed by the University to assist the state in developing optimal health care systems and supplying physicians for underserved, and especially rural, areas. To begin with, the Medical School increased the class size beginning in 1970, when there were 130 students admitted. This number was gradually increased so that by 1975, 200 students were being admitted, and this number has continued. Related to this was the establishment of a clinical branch of the School of Medicine in Wichita beginning in 1972. Now more total physicians would be graduated.

Recognizing that the chances were greater for having young physicians remain in Kansas if they had their residencies in Kansas, several things have been done. Outreach programs were started to establish residencies in various cities around the state. These plans have been pursued so that there is an expansion of programs in Wichita and Kansas City, and new programs were started in Garden City, Kingman, Norton, Halstead, Topeka, and Harper. Plans are underway to further increase the residency programs in still other cities.

In an effort to emphasize primary care, Family Practice programs have been established. A department in Kansas City and one in Wichita were started offering a greater emphasis on this important area. Further plans include the possibility of starting an Integrated Family Practice Program, which would relate to Kansas City or Wichita for the first year of the program with the second and third years being conducted in cities elsewhere around the state.

Certainly, the major building program of the new University of Kansas Memorial Hospital has been a significant factor enhancing the capability of the Medical Center in Kansas City to provide expanded educational resources in all fields as well as expanded patient services. If construction continues at the present rate, the new hospital should be available in late 1978. In addition, plans are underway for construction to start on a new Radiation Therapy Building by late 1977, and this building will round out the various services which can be provided and improve further the opportunities for teaching.

It is of great importance to try to provide the medical students and other health science students with a greater awareness of rural health situations. In late 1976, two Kansas Health Day programs were held, one in Kansas City and the other in Wichita, in order to give students some understanding not only of the opportunities for practice which are available but also to give communities the opportunity to speak directly with medical and nursing students, students in the Allied Health areas, and house officers. This program was followed by a rural health weekend in February 1977, to provide still more opportunities for medical students to become acquainted with the state and its need for physicians in smaller communities. This is a good opportunity for me to thank all of the many physicians who volunteered their time to be hosts for the students coming out on this particular weekend.

Another feature which has been well received is the expansion of the locum tenens program. Many more house officers have taken part in this program. Not only does this provide practicing physicians with an opportunity to get away for a period of vacation or study, but it offers another experience for house officers in learning about smaller communities and experiencing practice situations first hand. Plans are underway to enlarge this

(Continued on page 150)

* The Executive Vice Chancellor, University of Kansas School of Medicine, Kansas City, KS 66103.

Scientific ARTICLES

Computerized Tomography

Management of Acute Head Trauma

P. R. S. KISHORE, M.D., JAMES G. DAHLIE, M.D., JOHN E. BARTLETT, M.D.,* *and* KYO RAK LEE, M.D., *Kansas City, Kansas*

A report of experiences in using computerized tomography methods at KUMC is presented.

COMPUTERIZED CRANIAL tomography has been recognized as a breakthrough in the diagnosis of neurological disorders since its development by the British investigator, Godfrey Hounsfield in 1970. It produces multiple anatomic cross-sectional images of the head which readily demonstrate various normal or abnormal findings of the brain and orbits without significant hazard or discomfort to the patient.[1]

Since computerized tomography (CT) demonstrates accurately acute extracerebral hematomas, cerebral contusions, intracerebral and intraventricular hematomas and shift of the midline structures, it has been proven to be of particular value in patients with acute head injury. Prior to CT, cerebral angiography, which is accompanied by significant morbidity, was the primary diagnostic tool used in the management of head trauma. Since its installation at the University of Kansas Medical Center in March 1975, CT has virtually replaced cerebral angiography in the initial evaluation of patients with acute head injury.

Materials and Results

A total of 131 patients with acute head trauma were examined with an EMI-CT head scanner during the period between March 1975, and April 1976. The findings in these patients are summarized in *Table I.*

There were 28 patients with extracerebral hematomas *(Figure 1)*. Six additional patients had both intra- and extracerebral hematomas. Except for three cases in which the hematomas were considered too small to evacuate, all were confirmed at surgery or autopsy. Among the extra-axial hematomas two were not detected on CT scans. One was a right-frontal subacute, subdural hematoma with density similar to that of adjacent brain. There was, however, a significant mass effect causing distortion and displacement of right lateral ventricle. The second case was an acute subtemporal hematoma about 50 ml in volume, not detected because of artifacts.

Acute intracerebral hematomas and contusions are easily recognized by CT. The CT scan demonstrated accurately the presence, precise anatomical location, and extent of lesions in 22 patients. Four intracerebral hematomas had extended into the ventricles *(Figure*

From the Department of Diagnostic Radiology, University of Kansas Medical Center, Kansas City, KS 66103.

* Present address: Lester E. Cox Medical Center, Department of Radiology, Springfield, MO 65802.

Address reprint requests to Dr. Kishore, Section of Neuroradiology, Department of Diagnostic Radiology, KUMC.

TABLE I

CT FINDINGS IN 131 PATIENTS WITH HEAD TRAUMA

Normal		53
Patients with significant neurological deficit	19	
Patients without significant neurological deficit	34	
Edema		12*
Extracerebral hematomas		28†
Intracerebral hematomas		16
Intracerebral hematoma associated with extracerebral hematomas		6
Pneumocephalus		2
Non-diagnostic CT because of artifacts		14
Total		131

* In one patient with bilateral cerebellar edema, a significant alteration in density was not seen.

† A subacute subdural hematoma showed only mass effect and an acute subtemporal epidural hematoma was not seen because of artifacts.

2). A left-posterior temporal hemorrhagic contusion in a young patient with right-sided neurological signs is illustrated in *Figure 3*. Followup studies on an outpatient basis showed complete resolution of the contusion. This case illustrates that the patient may not need hospitalization after CT documentation of a non-surgical lesion.

Cerebral edema is seen on CT scan as an area of decreased density. Focal or diffuse edema of varying degrees was seen in 11 patients with significant neurological deficit. However, CT did not reveal alteration in density in one patient with bilateral cerebellar edema. Vertebral angiogram was necessary to demonstrate the mass effect prior to surgical decompression.

Of 53 patients with normal scans, there were no significant neurological findings or lateralizing signs in 34 patients. Symptoms consisted of headaches following trauma, transient loss of consciousness, or confusion. These patients were discharged with a diagnosis of concussion. In the remaining 19 patients there were significant neurological findings, such as pupillary changes, lateralizing signs, or unconsciousness lasting from a few hours to days. Three patients received total angiography, and six received radionuclide brain scans. These showed no significant abnormality.

Discussion

In our experience, the CT scan has proven to be a highly accurate, reliable, and definitive instrument in the diagnosis of conditions associated with acute head trauma. Because of its ability of differentiate subtle changes in the x-ray absorption of soft tissues, it provides information which is unobtainable by any other

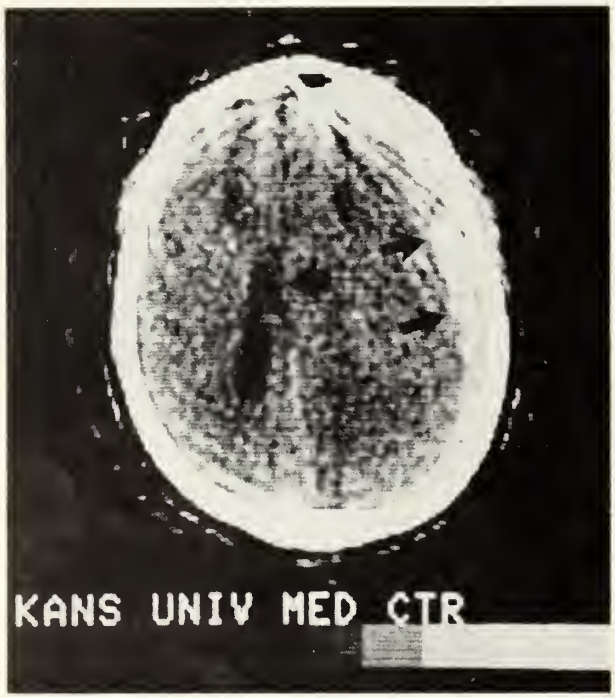


Figure 1A. Acute subdural hematoma is seen as a zone of increased absorption along the right hemisphere (small arrows). The right lateral ventricle is effaced and displaced to the left (large arrow).

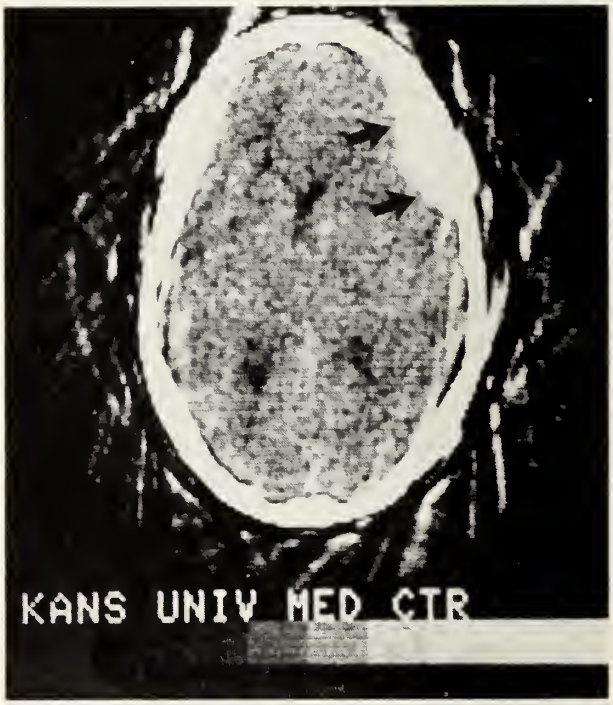
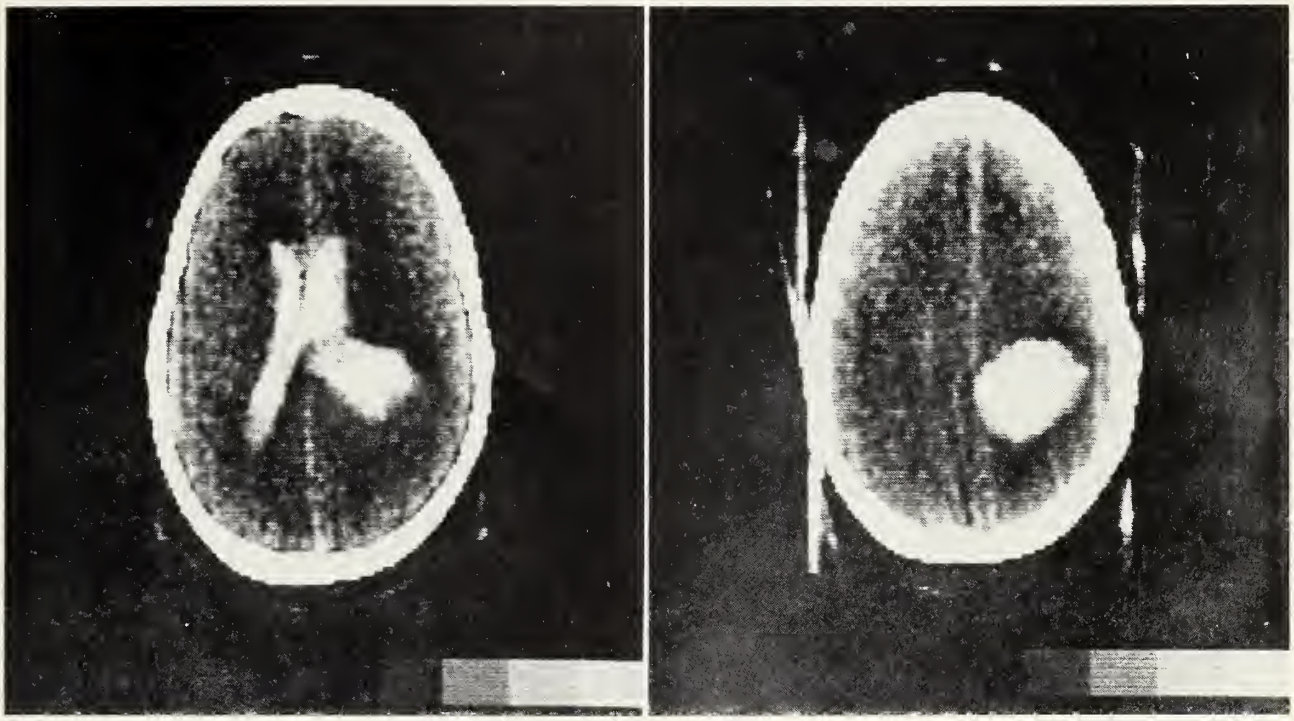
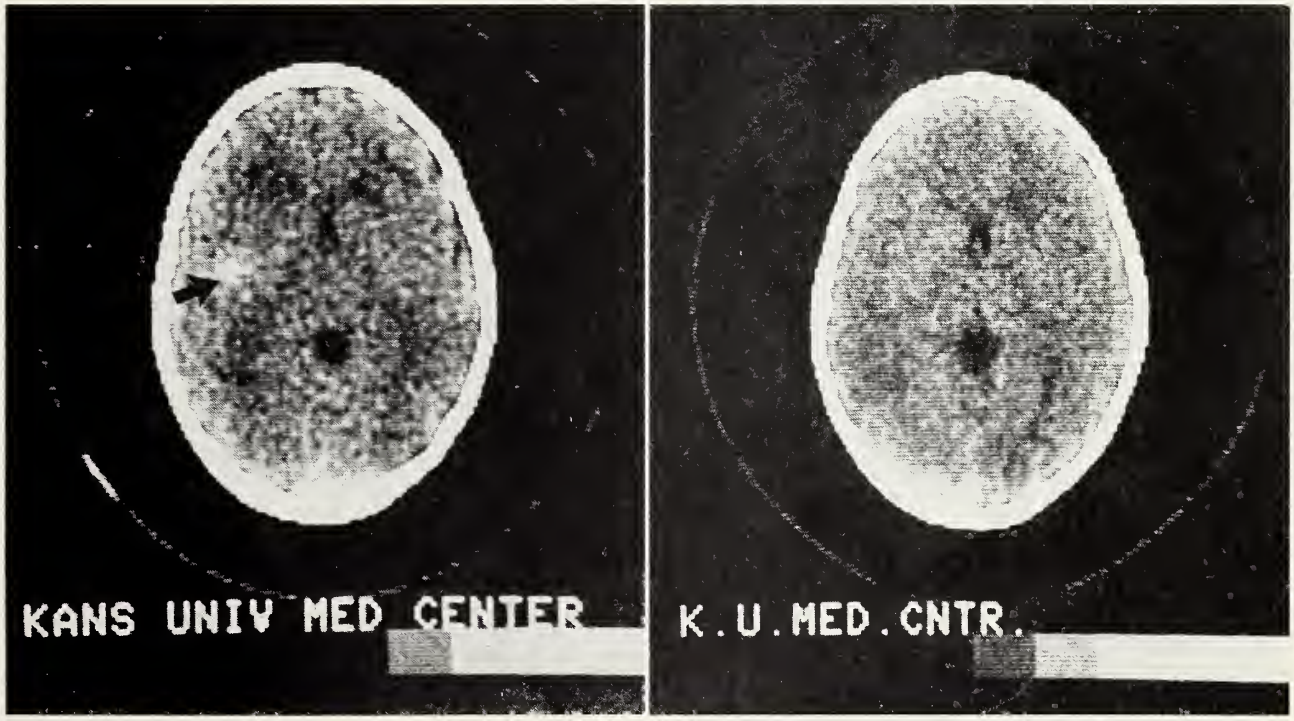


Figure 1B. An acute right frontal epidural hematoma with a characteristic convex inner margin (arrows).



A B

Figure 2. Two sections 13 mm apart show a blood cast of the lateral ventricles (A) from a right intracerebral hematoma (B), which has ruptured inferiorly into the right lateral ventricle.



A B

Figure 3. Two scans one month apart show a 1.5 cm left temporal hemorrhagic contusion (arrow—scan A) which has completely resolved on followup scan (B).

roentgenographic technique. Consequently, the introduction of CT has caused a significant reduction in the number of angiograms and radionuclide brain scans in patients with acute head trauma. The precise information provided by CT helps to lower the cost and time of the initial trauma work-up.

The principle in the diagnosis and management of head trauma is a rapid, thorough clinical evaluation of the patient's neurological status, followed by diagnostic studies which will give the maximum amount of information in the shortest amount of time and with the least possible manipulation of the patient. Anterioposterior and lateral skull films, immediately followed by a CT scan, have become the standard initial radiological investigation for all symptomatic patients with head trauma at KUMC.

Summary

Our experience with computerized cranial tomography (CT) in 131 patients with acute head trauma was reported. CT is a safe and accurate method to detect the presence, nature, location and extent of the lesion, and should be used as the procedure of choice in the initial evaluation of head trauma. It reduces the time and cost of initial work-up and may eliminate or shorten the hospitalization of patients with non-surgical lesions. The majority of surgically significant lesions, either extra- or intracerebral, are detectable by CT. If the scan is of technically satisfactory quality and is normal, further investigation is probably not necessary in the absence of compelling clinical reasons. Where an isodense lesion or vascular injury is suspected, either for clinical reasons or because of changes on the CT, angiography should be performed for further evaluation. Followup examinations are indicated for the detection of delayed hematomas or other abnormalities.

References

1. Ambrose, James: Computerized transverse axial scanning (Tomography) Part II clinical application. *Brit. J. Radiol.* 46: 1023-1047, 1973.

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Symposia:

April 20 and 21, 1977 **FAMILY PRACTICE**

Subjects to be discussed will include: CVP CATHETER vs. SWANS-GANZ CATHETER FOR MONITORING OF SHOCK; ALCOHOLISM AND ALCOHOL ABUSE; KANSAS EMERGENCY MEDICAL SERVICES; OBESITY—A PROGRAM OF MANAGEMENT; SMOKING AND LUNG DISEASE; THE CHOLESTEROL-TRIGLYCERIDE SITUATION—UPDATE; TOO YOUNG TO DIE; THE ANATOMY OF THE SWINE FLU PROGRAM. Registration Fee: $85.00

April 22, 1977 **INFECTIOUS DISEASES**

Guest Faculty:

WILLIAM C. ALLEN, M.D., Member, Commission on Education, American Academy of Family Physicians.
RICHARD B. HORNICK, M.D., University of Maryland School of Medicine, Baltimore.
B. LESLIE HUFFMAN, JR., M.D., Medical College of Ohio at Toledo.
WILLIS IRVINE, M.D., The American Academy of Family Physicians, Portland, Oregon.
MARTIN C. McHENRY, M.D., Cleveland Clinic Foundation; Case Western Reserve University School of Medicine, Ohio.
STANLEY A. PLOTKIN, M.D., University of Pennsylvania School of Medicine, Children's Hospital of Philadelphia.

Subjects to be discussed will include: THE CURRENT (CLINICAL) STATUS OF IMMUNIZATIONS PROGRAMS; MANAGEMENT OF URINARY TRACT INFECTIONS; CRITICAL APPRAISAL OF NEWLY AVAILABLE ANTIBIOTICS; DIAGNOSIS AND MANAGEMENT OF SEPTICEMIA. Registration Fee: **None.**

April 25-27, 1977 **ANESTHESIOLOGY**

Guest Faculty:

MICHAEL H. M. DYKES, M.D., Veterans Administration Lakeside Hospital, Chicago, Illinois.
LEONARD W. FABIAN, M.D., Washington University School of Medicine, St. Louis, Missouri.
A. H. GIESECKE, JR., M.D., The University of Texas Southwestern Medical School, Dallas.
GERALD A. GRONERT, M.D., Mayo Medical School, Rochester, Minnesota.
EDWARD E. LOWE, M.D., University of Cincinnati Medical College and Children's Hospital Medical Center, Ohio.
DANIEL W. WINGARD, M.D., University of Nebraska Medical Center, Omaha.

Subjects to be discussed will include: UPDATE ON INHALATION ANESTHETIC AGENTS; NEUROLEPTANESTHESIA; ANESTHETICS AND LIVER FUNCTION; RECENT CHANGES IN MECHANICAL VENTILATION MANAGEMENT; RATIONAL USE OF BLOOD AND BLOOD SUBSTITUTES; ACUPUNCTURE —PAST, PRESENT AND FUTURE. Registration Fee: $120.00

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A Case for Baskets

Non-Operative Removal of Retained Biliary Stones

ROBERT E. MOFFAT, M.D. *and* **KYO RAK LEE, M.D.,** *Kansas City, Kansas*

RETENTION of stones following bile duct exploration may occur in up to 5 per cent of cases.[1] In the past, this meant that the patient would have to be subjected to either another operation for stone removal or biliary perfusion with various chemicals in an attempt to dissolve the retained stone. However, with a newly devised stone basket and steerable catheter, retained stones can be removed non-surgically through the T-tube tract. The following three patients referred to the Kansas University Medical Center for this procedure are representative cases.

Case One

A 45-year-old female underwent cholecystectomy and common bile duct exploration with removal of several stones from the hepatic and common bile ducts. A single stone was demonstrated by intra-operative cholangiography in the left hepatic duct. Attempts to remove this stone were unsuccessful. Five weeks following her operation, the T-tube was removed and the tip of the steerable catheter passed beyond the stone which was then in the common hepatic duct *(Figure 1A)*. The basket was passed through the catheter, opened, and withdrawn slightly to ensnare the stone. The catheter, basket, and stone were then withdrawn through the T-tube tract. The results of a followup cholangiogram were normal *(Figure 1B)*.

COMMENT: Stones in the hepatic ducts are not accessible to palpation and only blind attempts can be made to remove them at operation. Complications sometimes result. The alternative is to allow time for the stone to move distally, where it can be removed under fluoroscopic visualization, as was done in this case.

Case Two

A single distal common duct stone was found in an 85-year-old male during a postoperative T-tube cholangiogram *(Figure 2A)*. A #12 French T-tube tract was easily negotiated with the steerable catheter, with subsequent entrapment of the stone in the basket *(Figure 2B)*.

COMMENT: Although the T-tube tract was smaller than is desirable, the 7-mm stone was removed intact with only minor discomfort to the patient.

Three cases of non-operative technique for basket extraction of retained biliary stones are presented.

Case Three

A 51-year-old male was initially admitted to his local hospital with pancreatitis and jaundice. Ten days later he underwent operation with incomplete removal of

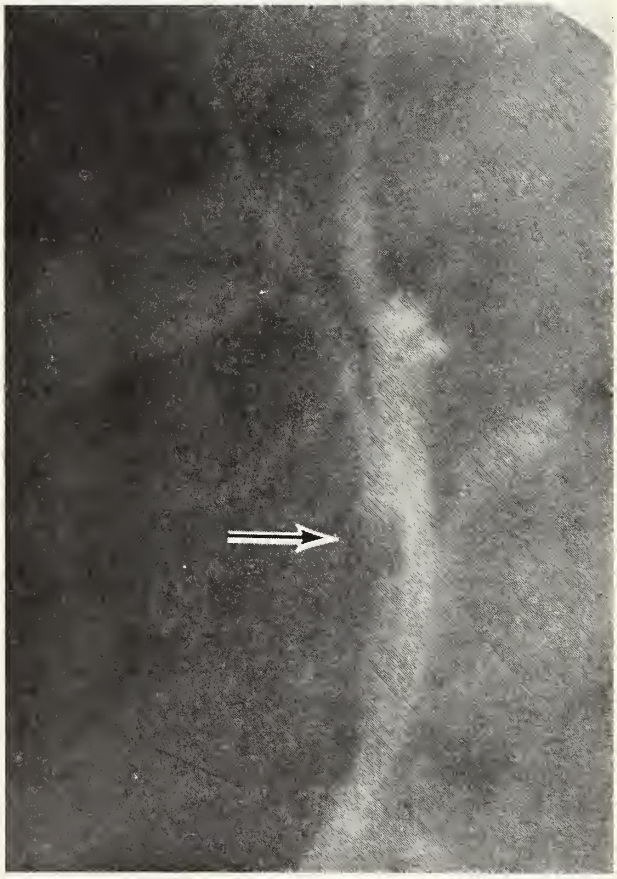

Figure 1A. Steerable catheter in proper position adjacent to the hepatic duct stone (arrow).

From the Department of Diagnostic Radiology, University of Kansas Medical Center, Kansas City, KS 66103.
Address reprint requests to Dr. Moffat.

Figure 1B. Post-procedural cholangiogram showing successful stone removal.

Figure 2A. 7-mm stone near ampulla of Vater.

multiple common duct stones. A second operative attempt to remove a large distal common duct stone was discontinued when the patient's vital signs became unstable. Negotiation of the common bile duct with surgical instruments had been quite difficult because of sharp angulation *(Figure 3A)*.

The first attempt at non-operative removal resulted in fragmentation of the stone, with several fragments being removed *(Figure 3B)*. A straight vinyl catheter was placed through the tract into the common bile duct and clamped. Upon return one week later, all but a single 3-mm fragment were extracted. A subsequent cholangiogram at the patient's local hospital documented spontaneous passage of the remaining fragment.

COMMENT: The advantages of non-operative removal of retained stones are again apparent in this case. One such advantage is that the operator does not feel compelled to remove all stones in one attempt. When it is appropriate to do so, the tract can be maintained with a straight catheter and extraction of stones completed at a later time.

Discussion

The success rate of non-operative stone extraction is high when done through a large, straight tract. It is, therefore, important that the T-tube size be French

Figure 2B. Basket in open position ready for closure around stone.

Figure 3A. Sharply angulated common bile duct with single large stone (arrow) demonstrated on postoperative T-tube cholangiogram.

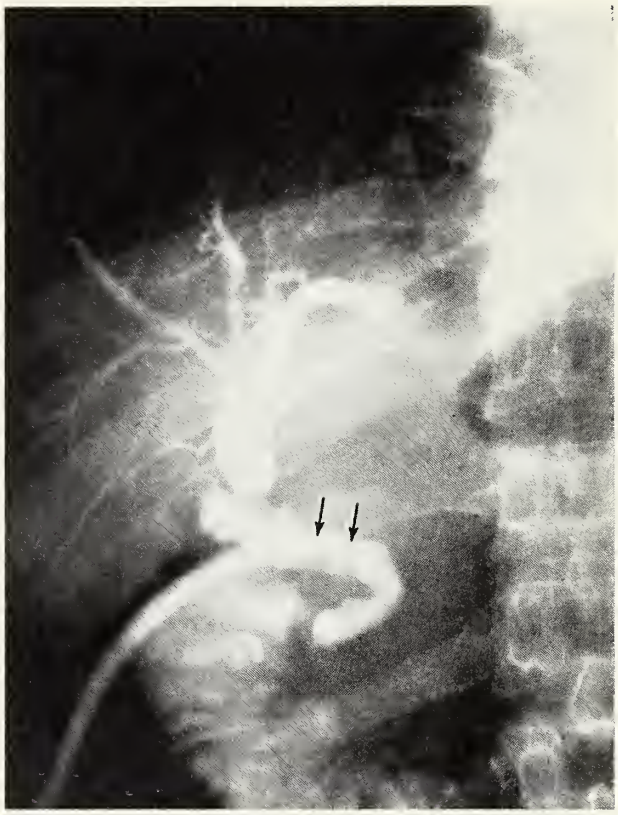

Figure 3B. Cholangiogram during extraction procedure showing two proximal fragments (arrows) which were then removed.

caliber 16 or greater, and that it is brought out through a lateral stab wound. The procedure can be accomplished through smaller tracts if the stone is not too large. Penrose drains should not be placed adjacent to the T-tube, as this will increase the possibility of infection in the tract. The T-tube must remain in place for 5-6 weeks following operation, in order for the tract to develop a fibrous wall. During this time, the T-tube can be clamped except in those few cases where obstruction of the common bile duct causes reflux of bile around the T-tube.

A major advantage of non-operative stone extraction is that no hospitalization, diet restriction, or premedication is required. The only procedural discomfort experienced by our patients has been caused by traction on the duct during stone withdrawal or by vigorous injection of contrast material. No complications have occurred.

In a review of 612 non-operative stone extractions from the postoperative biliary tract, Burhenne[2] reported no fatalities or serious complications. Reoperation for stone removal because of failure by the non-operative technique was required in only 9 per cent of cases. Seven patients with contained or free perforation of the sinus tract responded very well to antibiotics. No bile duct perforations or subdiaphragmatic abscesses were diagnosed.

Non-operative extraction of retained stones following choledochotomy and T-tube placement offers great advantages when compared to reoperation and to biliary perfusion through the T-tube. The procedure has been successfully performed in out-patients with hepatic and common bile duct stones of various sizes with very low morbidity.

Summary

Proficiency with basket extraction of retained biliary stones renders reoperation for stone removal unnecessary in at least 90 per cent of instances. Since this can be accomplished without hospitalization or serious complications, the non-operative technique offers a far better alternative than does the repeat abdominal operation. Three cases were presented which are representative of experience with this technique.

References

1. Burhenne, H. J.: Non-operative retained biliary tract stone extraction: a new roentgenologic technique. *Am. J. Roentgenol.* 117:388-398, 1973.

2. Burhenne, H. J.: Complications of non-operative extraction of retained common duct stones. *Am. J. Surg.* 131:260-262, 1976.

Lesions

Histiocytosis X

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From 1958 to 1975, seventeen patients with the diagnosis of Histiocytosis X, Eosinophilic granuloma, and Hand-Schüller-Christian disease were reviewed. Thirteen of the 17 patients (76%) are living with no evidence of disease. No single therapeutic modality was seen to be superior to any other. Treatment was directed toward the clinical and pathological features. Lahey's scoring system was applied to this series, and correctly predicted both observed deaths.

LICHTENSTEIN[1] in 1953 proposed that eosinophilic granuloma of the bone, Hand-Schüller-Christian disease and Letterer-Siwe disease are interrelated, and they were merely different clinical expressions of one disease. He grouped them under the term histiocytosis X, as the cause of this disease entity remains obscure. The microscopic picture of these lesions, whether of solitary foci or of disseminated disease, is that of a nodular or spreading infiltration containing masses of proliferating histiocytes, within which variable numbers of eosinophils are found.

The disseminated lesions tend to be predominantly histiocytic. The solitary bone lesions are dominated by masses of eosinophils. The lesions show gradual replacement by fibrosis in the involutionary phase. Mitotic figures are very unusual and often are absent.[2] It is difficult to predict the severity of the disease from the microscopic appearance of the lesion alone.

Materials and Methods

All hospital charts in the tumor registry at University of Kansas Medical Center coded as eosinophilic granuloma, Hand-Schüller-Christian disease, or histiocytosis X were reviewed. The review of 17 patients from 1958 to 1975 provides the basis for this report.

Clinical Presentation

The age range was 5 months to 46 years. More than 50 per cent were under age 5 years. The sex distribution was almost equal.

Histiocytosis X may affect any organ. Of this series, the most common findings were soft tissue swelling and pain or tenderness. Epiphora, otitis media, skin rash, and lymphadenopathy were rare. Although two patients developed diabetes insipidus at a later date, the classic Hand-Schüller-Christian triad, *i.e.*, exophthalmus, skull lesions and diabetes insipidus, was not seen in any of these patients at initial presentation. As reported by others, the H.S.C. triad seems to be rare.[3-5] Skin rash was seen in two patients; histological diagnosis was obtained in both of them. One patient presented with chronic otitis media, in whom the mastoid was seen to be involved roentgenographically. Hepatosplenomegaly and bone marrow involvement was seen in two patients. Histiocytic infiltration of liver was found in one case. The same patient had generalized lymphadenopathy without bone involvement. Osteolytic bone lesions were the most common roentgenographic finding (14/17); skull and long bones were frequently involved.

Treatment

Histological diagnosis was obtained in all patients before initiation of any therapy.

Surgery

Five patients received surgical treatment alone. The procedures included curettage and/or excision.

Radiation Therapy

Radiation therapy was administered in eight patients; three of these also received chemotherapy. The radiation dose ranged 100-2000 rad, but majority of patients (6/8) received a dose ranging 1000-2000 rad.

Chemotherapy

Three of six patients were treated by chemotherapy alone. The chemotherapeutic drugs included prednisone, velban, chlorambucil, vincristine, and 6-mercaptopurine. One patient was untreated.

Results

Ten of 17 patients have survived for more than five years and are well; two patients were lost to followup;

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four are alive less than three years after the initial diagnosis (one with disease) ; one died of disease.

Of the five patients with solitary lytic lesions treated by surgery alone, three are alive and well five years after the initial diagnosis; one patient is living at one year with no evidence of disease; one is lost to follow-up.

Of the five patients treated by radiation therapy alone, three were with solitary lesions and two with multiple bony lesions. All are alive and well, without any growth disturbance, after a period of 5-13 years. Of the three patients treated by radiation therapy and chemotherapy, one patient is alive with disease one year, and two patients are alive more than five years after the diagnosis. The lesions after radiation treatment showed some sclerotic changes as the years passed by *(Figures 1 and 2)*.

Of the three patients in the chemotherapy group, two are alive with no evidence of disease; one died of disease. Two patients who developed diabetes insipidus in the course of the disease are controlled with use of vasopressin, radiotherapy, and chemotherapy.

Discussion

Histiocytosis X is a rare disease. The annual incidence rate is probably not greater than 0.5 per 100,000 children.[6] Since Hand[7] in 1893 described a three-year-old boy with polyuria, hepato-splenomegaly, petechiae and destructive skull lesions, many reports appeared describing this disease entity. In recent years, Lichtenstein[1,4] affirmed the interrelationships of the three diseases: eosinophilic granuloma, Hand-Schüller-Christian disease, and Letterer-Siwe disease. Some authors[2,8,9] oppose the term "histiocytosis X." This divergence of opinion is in part due to the fact that the cause of these entities still remains unknown. It is suspected that an immunoallergic process, as suggested by Avioli *et al.*,[3] or a peculiar infectious, possibly viral process, is involved. Although there is some skepticism about the grouping of these syndromes under one entity, the frequent progression from a solitary eosinophilic granuloma to a disseminated histiocytic infiltrative process makes the term "histiocytosis X" clinically useful.

Figure 1. X-ray of the cervical spine (C_5) before treatment.

Figure 2. X-ray of the cervical spine (C_5) after treatment with 1000 rad.

Diagnosis

Biopsy of a suspected lesion is an essential procedure in establishing the diagnosis. Other procedures, such as bone marrow aspiration, might strengthen the diagnosis.

Treatment

The lesions may undergo spontaneous regression.[10,11] There is no specific treatment for histiocytosis X. A number of therapeutic modalities suppress the granulomas. The treatment must be directed toward the clinical and pathological features that the patient expresses at a given time.

Surgery

Historically, surgical intervention has been used

mainly in cases of solitary granulomas of bone, when complete evacuation of the pathological tissue may prevent a recurrence and be followed by permanent healing.

Radiation Therapy

In 1930, Sosman[12] introduced x-ray therapy as a therapeutic modality in cases of granulomas of bone associated with Hand-Schüller-Christian disease. Since then, the value of this therapy has been emphasized repeatedly.[13–15] Childs *et al.*[13] recommended a total dose of 600 rad, fractionated at 150-200 rad, but equally satisfactory results were obtained with larger doses (1000-2500 rad). Favorable results may be expected not only in osseous lesions, but also in soft tissue swelling, such as skin or lymph nodes. In our series, the five patients treated by radiation therapy alone had local control over a period of 5-13 years. In a majority of these patients the dose ranged from 1000-2000 rad. Sclerosis may be expected in bones treated over a long period of time. Radiation therapy is of great value, even in disseminated disease, as a palliative measure to hazardous sites, such as weight-bearing bone or vertebrae. The radiosensitivity of histiocytosis X is comparable to that of leukemia and lymphomas, hence a dose more than 2000 rad is rarely required to achieve a long term local control.

Chemotherapy

Multiple chemotherapeutic drugs, including corticosteroids,[16, 17] Cytoxan,[18] 6-mercaptopurine,[17] vinblastine,[17, 18] vincristine[18] and antifolates,[16] have been shown to produce beneficial effects. In this series, two of three patients are surviving for more than two years with no evidence of disease. In a recent review, Lahey[17] compared three treatment regimens: (1) vinblastine alone; (2) vinblastine and prednisone; and (3) prednisone and 6-mercaptopurine. The results of this study showed that there is not much change in response rate between the three treatment regimens. The results also suggest that if there is no response to one treatment regimen, response to another is unlikely.

Prognosis

The prognosis is good in cases of solitary osseous lesions, irrespective of therapy used, and it is good to fair in children with multiple granulomas restricted to bone without any other organ system involvement. It is generally poor in disseminated disease, more particularly with extensive visceral involvement. The prognosis is worse in infants.[5, 17]

Lahey's[19] scoring system is utilized as a prognostic aid. In this system, a score of one was given for involvement of each of the following: skin, liver, spleen, lung, pituitary, skeleton (bone marrow), anemia, leukopenia, leukocytosis, and thrombocytopenia in addition to: lymphadenopathy, otitis media, and renal system. According to Lahey[17] and Lucaya,[5] prognosis was linearly related to the score.

Summary

1. The clinical and radiological features of 17 patients were reported and different therapeutic modalities discussed;

2. Treatment must be directed toward the clinical and pathological features that the patient expresses at a given time;

3. Lahey's scoring system seems to be the most useful prognostic aid and could be used to compare data from different centers;

4. Histiocytosis X is an arbitrary term that is useful to describe a group of patients with interrelated diseases of unknown cause.

References

1. Lichtenstein, L.: Histiocytosis X: integration of eosinophilic granuloma of bone, Letterer-Siwe disease, and Schuller-Christian disease as related manifestations of a single nosologic entity. *Arch. Pathol.* 56:84-102, 1953.

2. Lieberman, P. J. *et al.*: A reappraisal of eosinophilic granuloma of bone, Hand-Schuller-Christian syndrome and Letterer-Siwe syndrome. *Medicine* 48:375-400, 1969.

3. Aviolo, L. V.; Laverson, J. T. and Lopresti, J. M.: Histiocytosis X (Schuller-Christian disease): a clinico pathological survey, review of ten patients and results of prednisone therapy. *Medicine* 40:119-147, 1963.

4. Lichtenstein, L.: Histiocytosis X (eosinophilic granuloma of bone, Letterer-Siwe disease and Schuller-Christian disease): further observations of pathological and clinical importance. *J. Bone Joint Surg.* 46:76-90, 1964.

5. Lucaya, J.: Histiocytosis X. *Amer. J. Dis. Child.* 121:289-295, 1971.

6. Starling, K. A. and Donald, J. F.: Histiocytosis X. *Clin. Pediatr. Oncology.* C. V. Mosby Company, St. Louis, 1973, pp. 337-357.

7. Hand, A., Jr.: Polyuria and tuberculosis. *Arch. Pediatr.* 10:673-675, 1893.

8. McGavran, H. M. and Spady, H. A.: Eosinophilic granuloma of bone. *J. Bone Joint Surg.* 42A:979-992, 1960.

9. Otani, S.: A discussion of eosinophilic granuloma of bone, Letterer-Siwe disease and Schuller-Christian disease. *J. Mount Sinai Hosp.* 24:1079-1092, 1957.

10. Lightwood, R. and Tizard, J. P. M.: Recovery from acute infantile non-lipoid reticuloendotheliosis (? Letterer-Siwe disease). *Acta Pediatr. Suppl.* 100:453-468, 1954.

11. Meenon, F. O. and Cahalane, S. F.: Spontaneous resolution of Histiocytosis X. Report of a Case. *Arch. Derm.* 96: 532-535, 1967.

12. Sosman, M. C.: Xanthomatosis (Schuller's disease; Christian's syndrome). A report of three cases treated with roentgen rays. *Amer. J. Roentgenol.* 23:581-597, 1930.

13. Childs, D. S., Jr. and Kennedy, R. L. J.: Reticuloendotheliosis of children: treatment with roentgen rays. *Radiology* 57:653-659, 1951.

14. Dundon, C. C.; Williams, H. A. and Laipply, T. C.: Eosinophilic granuloma of bone. *Radiology* 47:433-444, 1940.

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Diabetes

Outpatient Management

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DIABETES MELLITUS is a major chronic disease with increasing prevalence. While its complications often require hospitalization, much of the care and management of diabetes can be, and indeed should be, performed in an ambulatory setting or in the home. Like other common chronic diseases, such as hypertension, arthritis and obstructive lung disease, diabetes requires closely monitored, recurrent care.

A host of reports and articles are available that emphasize the importance of adequate patient education for diabetes management.[1–4] Likewise, there are numerous books, pamphlets, and teaching aids which, when offered or used without careful selection, may be more confusing than helpful for the patient and even the physician. The most constructive programs stress patient responsibility or even contractual agreement for self-care, the premise being that the disease and its management is to a large degree the patient's responsibility.[5, 6]

While the medical team can offer its professional expertise and advice, it is up to the patients with diabetes to choose among the options for treatment and a pattern of living dictated by their chronic problem. This became the philosophy of our clinic, and the goal is to promote, deliver, and ensure quality care by interaction of the health-care team and the enlightened, self-monitoring patient.

The Clinic Setting

The KUMC diabetic outpatient clinic is one of a number of general medicine and specialty outpatient clinics supervised by the staff of the Department of Medicine. The clinics serve as primary health care provider for a geographically adjacent population and in a consultative capacity for a broader based, referred group, and for intra-hospital referral from other divisions or departments. The clinics are chiefly management clinics for the long-term followup and primary care of diabetes. Several hundred diabetics are regularly followed but, as noted, referral problems or consultations may also enter the system. Diabetes clinics are usually held two mornings a week with approximately 10-20 patients per clinic. Patients are instructed to arrive before 8:00 AM without breakfast and morning insulin, so plasma specimens for fasting glucose determinations can be obtained. Also, each patient must bring an aliquot of the total urine collection along with a measurement of total volume for the previous 24 hours, for laboratory determination of quantitative sugar. After visiting the laboratory, taking their insulin if required and eating breakfast at the hospital, the patients wait until they see the physician at 9:30 AM. Laboratory results (blood and urine, for sugar and ketones) become available at 10:00 AM. The patient's hospital or outpatient records, and any other recent laboratory or x-ray data, are expected to be available when the patient is ready to be seen. Time and space allotments, amount of help provided, and efficiency of assessment have been the chief limitations to the number of diabetic patients who can be effectively managed.

Patient education toward self-management has become an important factor in primary care at KUMC. This report is a summary of recent changes and innovations in the clinic system at KUMC, designed to initiate and assure quality care for the diabetic patient.

Patients' Participation

Patients are not necessarily expected to know what is best for them medically, but it is important that they at least feel relatively satisfied in the health care system. Before initiating any changes, all patients were given a written questionnaire regarding their evaluations and impressions of staff or clerks, time spent at each level, time spent waiting and parking, problems getting to and from the clinic, etc. This was administered by a previous outsider to the clinic, and anonymity of all answers was assured. Responses were general-

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DIABETIC CLINIC - MANAGEMENT VISIT FORM

IF NEW PATIENT, OR IF COMPLETE PHYSICAL EXAM IS REQUIRED (ANNUAL OR PERIODIC) THEN USE DATA BASE OR APPROPRIATE FORM FOR COMPLETE PHYSICAL. USE THIS DIABETIC MANAGEMENT VISIT FORM IN CONJUNCTION WITH THE DIABETES MASTER SHEET --BOTH TO BE MAINTAINED IN THE PATIENT'S CHART.

DATE _____ VT _____ (K) _____ (F) WT CHANGE SINCE LAST VISIT (0,-, or +) _____ (K)

DIABETES DURATION _____ (years) WEEKS SINCE LAST CLINIC VISIT _____

INSULIN DEPENDENT (ID) OR INSULIN INDEPENDENT (II) DIABETES (circle one)

B.P. (sit) _____ (stand) _____ PULSE _____ REG; IRREG (circle one)

AGE _____ RACE _____ SEX _____ DAYS SINCE LMP _____

TODAYS LAB: A.M. FASTING PLASMA GLUCOSE _____ 24 HOUR URINE SUGAR (Gms) _____ ACETONE _____

OTHER LAB RESULTS: _____

URINE SELF-TESTING, # PER WEEK _____ METHOD OF TEST _____ ACETESTS _____ DOES PATIENT KEEP RECORD _____

INSULIN REACTIONS PER WEEK _____
(Circle if any): PRE-REACTION WARNING, COMA, HEADACHE, SWEATS, ANGINA, PSYCHOMOTOR DISTURBANCE, NIGHT SYMPTOMS (DREAMS, SWEATS, DYSPNEA, HEADACHE)

		6a	12n	6p	12m	6a
MOST TIME OF REACTION (if any)	(✓)					
USUAL CINITEST PATTERN	(0 to 4+)					
USUAL ACETEST PATTERN	(0 to 3+)					

INSULIN

	AM units	PM units	units
NPH/LENTE (circle one)			
REGULAR/SEMI-LENTE (circle one)			TOTAL 24 Hr. INSULIN DOSE

OTHER DIABETIC MEDS (ORAL AGENT, ETC.) _____

OTHER MEDS _____

PATIENT'S STATUS IS UNCHANGED/CHANGED (circle one) SINCE LAST CLINIC VISIT.
IF EVIDENCE FOR, OR CHANGE IN STATUS OF, ANY OF THE FOLLOWING:
(Circle item and elaborate on as problem to the right. Do not elaborate on problem if there is no change in status or chronic condition has already been identified.)
--DIABETES ASSOCIATED COMPLICATIONS OR PROBLEMS: RETINOPATHY, CATARACTS, NEPHROPATHY, NEUROPATHY, DERMOPATHY, ASHD, PVASD, TROPHIC ULCERS, INFECTION, DIARRHEA, LIPEMIA, IMPOTENCE, INSULIN RESISTANCE, INSULIN SENSITIVITY, POOR CONTROL.
--OTHER PROBLEMS (ACUTE OR CHRONIC): ENT, EYES, THYROID, B.P., LUNGS, C.V., G.I., G.U., GYN., NEURO, HEME, MUSCLE, JOINT, OTHER ENDO., SKIN, PSYCHE, SOCIAL-ECON.

ESTIMATED INSTRUCTIONAL (THERAPEUTIC, DIETARY, ETC.) COMPLIANCE FOR SELF-MANAGEMENT

	0	1+	2+	3+	4+
DIABETES UNDERSTANDING					
ABILITY TO UNDERSTAND AND COOPERATE					
COOPERATION AND MOTIVATION					
SELF AND DISEASE ACCEPTANCE					
ADEQUATE SOCIAL-ECON SETTING					

	1+	2+	3+	4+
ACTIVITY: WEEKDAYS.				
WEEKENDS				

(1+ sedentary 4+ very active)

APPROX. DATE NEXT CLINIC APPT. _____

IS DIABETIC MASTER SHEET AND PROBLEM LIST UP TO DATE? _____

ARE HEALTH MAINTENCE TESTS CURRENT? _____

IF NO TO ABOVE, DOES PLAN INCLUDE WHAT IS NEEDED FOR NEXT VISIT? _____

SPACE FOR LISTING ANY ACTIVE OLD OR NEW PROBLEMS (SOAP)

Signature:

DIETITIAN'S NOTE

PRESCRIBED DIET: _____

24 Hr. CALORIES (Average) _____

DISTRIBUTION:

DEVIATIONS:

Signature:

Figure 1

ly favorable with regard to professional contact, but critical for time waiting to be seen and ability to reach professionals outside the clinical setting and after hours. After a suitable interval and attempted solution of the identified problems, subsequent questioning in an identical fashion has shown significant improvement in responses. This type of assessment continues, as does measurement of patient compliance, attendance, understanding of diabetes and self-care knowledge, needs for out-of-system encounters, and emergency room visits. The process of assessment demonstrated to the patients that someone was concerned about them and, therefore, in itself helped to promote compliance and responsibility.

Simply exposing a patient to a lecture, video-tape, or reading material is often not sufficient to ensure learning. Before entering the series of classes or being exposed to video-tapes, patients are given a written or interview examination to assess their knowledge of diabetes and its management. They are similarly re-tested at the end of the classes both as to fund of knowledge and practical application (urine testing, insulin administration). In areas of deficiency, re-exposure to that particular class or more intensive individual interaction with the instructor may be indicated. In some cases, hospitalization for education and practical instruction may be required.

Staff Availability

A readily apparent problem at KUMC was the lack of continuity of care by familiar personnel. Although one or more staff physicians supervise all care, other responsibilities make their constant availability for all non-clinic visits and phone calls impossible. Students or house staff usually see these patients initially, as part of their education in diabetes health care, but students and house staff rotate every one-two months. To provide a readily identified professional who would be available both in the clinic and at non-clinic times, the part time services of a Registered Nurse were obtained. She is the first level of non-clinic contact for the diabetes patient and is able to screen most of their problems, either in person or by phone. With increasing experience and familiarity with a patient's case, the nurse may make recommendations directly to the patient. Any questions or therapy problems that she might have are called to the attention of the patient's physician, and all of her contacts are reviewed and discussed with her supervising physician at regular intervals. The diabetic nurse functions in the clinic primarily as educator and nurse, but supervised training and instruction permit her to increasingly assume some of the evaluating and management duties. Such an individual can grow into the role of a specialist or nurse-practitioner, depending upon the needs of the clinic or the supervising physician.

As noted, the presence of one or more nurses identified with diabetic care will do much to assure the patients that professional assistance is available at all times for help with their problems. To further achieve consistency and continuity of care, a team consists of a diabetes nurse, clinic nurse, social worker, dietician, pharmacist, podiatrist, and the supervising physician. Each of these individuals is not present for every clinic, but they rotate in presentation of the scheduled classes and are familiar in their respective areas. For example, the patient deals with only one dietician on a recurring basis and knows where and when she is available for questions about the prescribed diet. Other specialists or professionals may be included in such an identified patient-care team, as the need arises.

Clinical Evaluation

Securing comparable and consistent clinical data on patients was a problem with rotating house staff and students. We have demonstrated that a computerized system can be ideal in this regard, but it is impractical unless all clinics in the Center are so organized, and unless personnel are familiar with such systems.[7] As a compromise, a partially structured diabetes management sheet was designed for listing history, physical, and laboratory data for that visit *(Figure 1)*. This form forces the examiner to ask certain questions or obtain certain data on a recurring basis—information that is minimal for adequate assessment of the diabetic. Indirectly, it also educates the examiner to learn what is important in managing the disease. There is a space for elaboration of problems, assessment and plan, and for comment by the dietician. Any member of the health care team may write on this sheet, thus including all information from a clinic visit in one area of the patient's chart.

Because missing or delayed delivery of patient's record is a recurrent problem in many clinics, we have recorded the most essential diabetes data for each patient on a small card, which they are told to carry on their person at all times. It is updated with each visit as to amount and type of insulin, other medications, complication status, etc. Inordinate delays in waiting for chart or records can thereby be avoided, and some semblance of what has previously transpired can now be quickly ascertained by the examining physician.

Teaching Plan

The identified team of individuals meets regularly to discuss the objectives aimed at self-care. A series of

12 classes of 45 min. each and dealing with varying topics in diabetes was set up with two classes per week. Each professional is responsible for one or two of these classes under general supervision of the diabetes nurse. The classes are held concurrently with diabetes clinic, intervening between the patient's visit to the laboratory and visit with the physician. Patients frequently help in these classes. The advantages of this time and arrangement are several: (1) The patients are occupied with constructive activity whereas normally they would be idly waiting; (2) It is a captured audience which otherwise might not be exposed to the material; (3) Inpatients can easily be sent to the outpatient area for the classes; and (4) A patient's eating habits and insulin administration technique may be assessed first hand. Disadvantages include the inability of some working or school-going individuals to get to these classes, and the similar difficulties that a non-KUMC clinic patient may have at that time of day. All patients are asked to carry an attendance card to show which classes they have attended, and they are awarded a certificate after completion of the series. Because the 12 classes are continually repeated in sequence, the patient may miss one or more classes and make them up at a later date. Refresher courses are encouraged and often advised.

Teaching Aids

Because of availability, grant and institutional support, flexibility of application and patient acceptance, color television with video-tape cassettes is utilized as the primary teaching tool. A series of teaching tapes was produced by our personnel for use either on an individual basis or in the classroom setting as part of the self-management series. A portable TV set with videocassette player is easily transported where needed, and may even be used at the bedside. The 13 individual tapes are 10-20 min. in length, and cover the following subjects: (1) Introduction to the diabetic clinic procedures; (2) Resume of what diabetes is; (3) Diabetic medications; (4) Insulin injection technique; (5) Diabetes management and the importance of self-care; (6) Emotional aspects of diabetes; (7) Chronic complications; (8) Acute complications; (9) Urine testing; (10) Diabetic diet (two parts); (11) Foot problems; and (12) A check list for self-assessment.

The patients can readily identify with the delivered message because it is presented by the same medical personnel who deal with their problems. Several tapes utilize diabetic patient volunteers from the clinic, and this is additionally motivating to the patient. The video cassettes may be used outside the KUMC setting, and are available for rental or purchase from the Audio-Visual Department. As needs or medical developments change, a particular tape can be easily remade and new tapes may be added to the series. The use of any professional actors or need for perfect recording was purposely avoided, so the health care team would not be put off from updating their individual topics.

To emphasize continually the self-care and management theme, a simple logo is shown at the beginning and end of each of these tapes, namely the "diabetes management wheel" *(Figure 2)*. Central to all types of management, or acting as the hub of the wheel, is patient responsibility and motivation. Note that professional help is only one of the five spokes in this design. Patients are told that only the hub or axle can make the wheel roll, and to ensure a smooth ride each spoke must be equally strong.

Discussion

Although what has been expressed here in terms of teaching and measured assessment is scientific in approach, it must not be forgotten that management is more a practice than a science. The performance of management is a practice based both on knowledge and responsibility.[8] The patient and the health professional must share a large portion of both the knowledge and responsibility if management is to be effective.

We are encouraged by the positive outcomes already noted, but feel that optimum potentials have not been fully exploited, and improvement of the present systems as well as added endeavors are planned for the

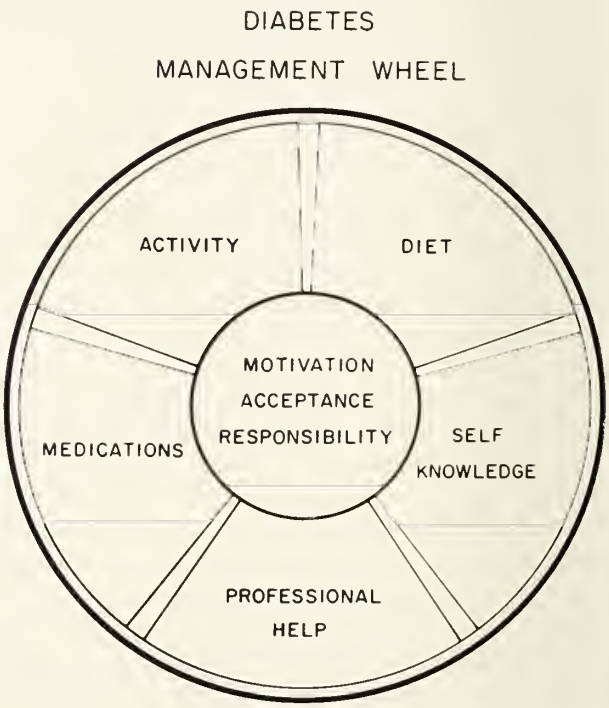

Figure 2

future. Minimum standards of health maintenance for the diabetic are needed, as are protocols of management responsibility for each member of the health care team. Informational and quality assurance systems for each patient need to be expanded as well.

The criteria of diabetes control, the medical standards for diabetes, and types of diabetic prescription such as diet have been intentionally avoided in this summary article. We have outlined only our initial systems and means of management, as the first step in the delivery of medical care, particularly self-care. Patient education and motivation is, therefore, the primary goal. The patient is more likely to be well-controlled or medically acceptable if he understands the problem and cares about a solution. Although still controversial, we would agree that diabetes control should be the best possible in order to attempt to prevent the acute and chronic complications of diabetes, albeit, the variations of each individual patient and their ability to be controlled may often require a compromise.[9]

One of our primary missions at KUMC is the training of health professionals. In keeping with that objective, it is hoped that exposure of the student and house officer to diabetic outpatient management will be utilized in professional practice in Kansas and the surrounding areas. Because we have found a nurse specialist in diabetes to be a vital figure, it is planned that eventually nurses or similar professionals already in practice may come to KUMC for a designated time to observe one or more management clinics as described above. Such management techniques may apply to many practice situations and will significantly aid the physician and community in chronic disease management.

References

1. Etzwiler, D.: Who's teaching the diabetic? *Diabetes* 16: 111, 1967.
2. Miller, L. V. and Goldstein, J.: More efficient care of diabetic patients in a county-hospital setting. *New Eng. J. Med.* 286:1388, 1972.
3. Allison, S. E.: A framework for nursing action in a nurse-conducted diabetic management clinic. *J. Nurs. Admin.* 3:53, 1973.
4. Kyner, J. L.; Eaks, G. A. and Neufeld, N. J.: How do we start teaching together? Amer. Diabetes Assoc., 7th Allied Health Postgraduate Course, 1975.
5. Mitchell, J. A.: Quality of medical care—mutual responsibility of consumers and providers. DHEW No. (HSM) 73-7021:83, 1973.
6. Etzwiler, D. D.: Why not put your patients under contract? *Prism* 2:26, 1974.
7. Bolinger, R. E.; Price, S. and Kyner, J. L.: Experience with automation as an aid in the management of diabetes. *Diabetes* 22:480, 1973.
8. Drucker, P. F.: *Management.* New York City, Harper and Row, 1973, p. 17.
9. Cahill, G. F., Jr.; Etzwiler, D. D. and Freinkel, N.: Control and diabetes. *New Eng. J. Med.* 294:1004, 1976.

Information for Authors

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Neurocutaneous Syndromes

Pheochromocytomas Associated With von Hippel-Lindau Syndrome

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NEUROCUTANEOUS syndromes include multiple neurofibromatosis (von Recklinghausen disease), von Hippel-Lindau syndrome, Sturge-Weber disease, tuberous sclerosis, and ataxia telangiectasia (Louis-Bar syndrome). They are generally considered to be related disorders involving the structures arising from the neuroectodermal and mesenchymal derivatives.[1-3] The tendency for pheochromocytoma to occur in patients with von Recklinghausen disease is well known. Thus, it would not be surprising to diagnose pheochromocytoma in patients with von Hippel-Lindau syndrome. Eleven such cases have previously been reported.[4] Two additional cases, stressing the importance for the preoperative diagnosis of pheochromocytoma in these patients, are being presented here.

Case One

A 25-year-old white male was admitted to KUMC for evaluation of his paroxysmal hypertension of several years' duration. He had been known to have bilateral angiomatosis retinae, which were treated with photocoagulation and bilateral scleral buckling procedure. The family history was unremarkable.

The positive physical findings consisted of hypertension (150/90) and bilateral angiomatosis retinae. Both fundi showed pigmentary changes secondary to photocoagulation and diathermy. Neurological findings were normal. Laboratory finding showed elevated catecholamine, and positive results of the Regitin test. The intravenous pyelogram showed lateral displacement of the proximal left ureter. An abdominal aortogram revealed a large vascular tumor in the left para-aortic region at the level of the third lumbar vertebra (organs of Zuckerkandl). No abnormality was found in the kidneys or suprarenal areas.

A well-encapsulated 6-cm tumor was found at surgery. The tumor was very vascular and supplied by enlarged lumbar arteries. Both kidneys and adrenal glands were normal. The pathological diagnosis was pheochromocytoma.

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Case Two

A 56-year-old white male was admitted to KUMC because of suboccipital headache, vomiting and weakness in the right side which had been slowly progressing over the past three years. He developed a staggering gait and disorientation a few weeks prior to admission. There were no seizures or cranial nerve symptoms. He had a known hypertensive condition and had been treated with a low-salt diet for the past several months.

Two new cases of von Hippel-Lindau syndrome, with associated pheochromocytoma, are presented and literature of previously reported cases is reviewed. The relationship of pheochromocytoma to other neurocutaneous syndromes is discussed.

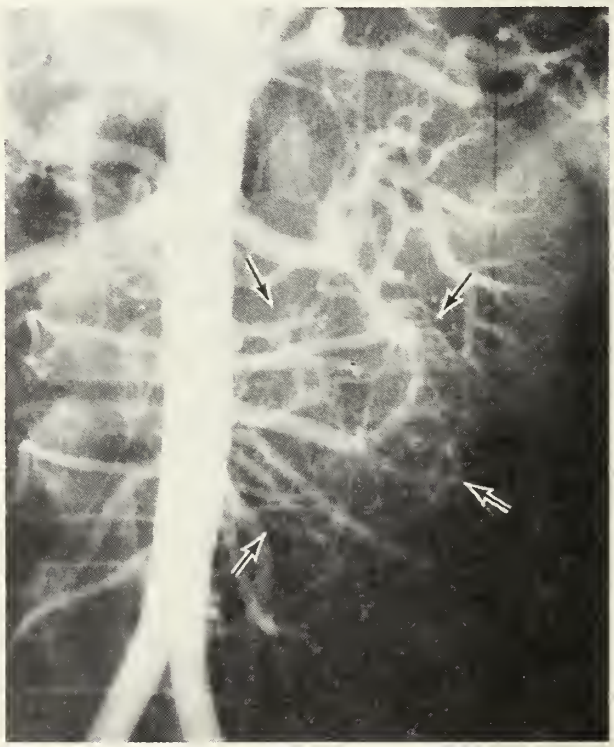

Figure 1. An abdominal aortogram demonstrates a large vascular tumor in the left para-aortic region (pheochromocytoma of the organs of Zuckerkandl).

Physical examination revealed a well developed white male who was disoriented and dysphasic, with blood pressure of 150/90 mm Hg. The neurological examination revealed muscle weakness in the right side, cerebellar ataxia, and bilateral mild papilledema of long standing. The test for Romberg's sign produced negative results. Cranial nerves were intact.

Laboratory study revealed polycythemia vera with the following values: hemoglobin, 18.9 gm/100 ml; hematocrit, 60%. The results of the chest roentgenogram and intravenous pyelogram were normal. A brain scan showed an area of high activity in the left parieto-occipital region near the midline. Bilateral carotid and left vertebral arteriograms demonstrated a vascular tumor in the left cerebellar hemisphere near the tentorium. A left suboccipital craniectomy revealed a 3 x 4-cm vascular tumor in the left cerebellar hemisphere. The tumor was totally excised without difficulty, and proved to be a hemangioblastoma. The patient tolerated the immediate surgery but developed extremely high blood pressure the following morning. The blood pressure continued to fluctuate 130/60-200/100 mm Hg. On the third postoperative day, when he was taken back to the operating room because of decreasing responsiveness, the previous operative site was re-explored but was found to be completely free of clot. During this procedure, the patient suddenly developed cardiac arrest and expired.

Autopsy revealed the lesion in the left cerebellar hemisphere to be completely removed. Associated lesions included an intramedullary hemangioblastoma with syringomyelia formation in the lower cervical cord, a 4.5-cm pheochromocytoma in the right adrenal gland, and multiple cysts in the pancreas and kidneys.

Discussion

Van der Hoeve[8] originally suggested that von Hippel-Lindau syndrome be included in the neurocutaneous syndrome (phacomatoses). It is not surprising that the neurocutaneous syndromes and pheochromocytoma occur together since, embryologically, the major abnormalities involve neuroectodermal derivatives. Glushein[2] initially suggested an association between pheochromocytoma and von Hippel-Lindau syndrome. It is estimated that at least 10 per cent of patients with pheochromocytoma will be found to have some form of neurocutaneous disease. The incidence of neurofibromatosis in the patients with pheochromocytoma has been reported to be 5-25 per cent.[1, 2]

Thirteen reported cases of von Hippel-Lindau syndrome associated with pheochromocytoma, including the present cases, showed an equal sex distribution and a high incidence in the age 20-40 group. Six cases had the tumor in the left adrenal; two in the right adrenal; two were bilateral; and one in the organs of Zuckerkandl.

Approximately 20 per cent of cases with retinal hemangiomas (von Hippel's disease) may have one or more lesions comprising Lindau's disease.[3] Therefore, a careful search to detect possible concomitant cerebellar hemangioblastoma, hypernephroma, or pheochromocytoma is emphasized in any case of retinal hemangiomatosis. It is important not only to diagnose the presence of pheochromocytoma but also to diagnose the number and location of these tumors preoperatively (approximately 10 per cent of pheochromocytomas are multiple or in extra-adrenal location).[9] Case One is the first reported case of von Hippel-Lindau syndrome in which the pheochromocytoma occurred in the organs of Zuckerkandl. The stormy postoperative course and eventual death of the patient in Case Two was most likely due to hypertensive crisis and, again, stresses the importance of the preoperative diagnosis of coexisting pheochromocytoma. Even in cases with mild hypertension, a high diagnostic index for associated pheochromocytoma must be maintained.

Summary

Two additional cases of von Hippel-Lindau syndrome with associated pheochromocytoma were presented and eleven previous cases reported in literature were reviewed. One of the newly presented cases represents the first case in which a pheochromocytoma arose from the organs of Zuckerkandl. The importance of diagnosing pheochromocytoma preoperatively in patients with von Hippel-Lindau syndrome is stressed. The relationship of pheochromocytoma to other neurocutaneous syndromes is reviewed.

References

1. Chapman, R. C.; Kemp, V. E. and Taliaferro, I.: Pheochromocytoma associated with multiple neurofibromatosis and intracranial hemangioma. *Amer. J. Med.* 26:883-890, 1959.

2. Glushien, A. S.; Mansuy, M. M. and Littman, D. S.: Pheochromocytoma: its relationship to the neurocutaneous syndromes. *Amer. J. Med.* 14:318-329, 1953.

3. Melmon, K. L. and Rosen, S. W.: Lindau's disease: review of the literature and study of a large kindred. *Amer. J. Med.* 595-617, 1964.

4. Chapman, R. C. and Diaz-Perez, R.: Pheochromocytoma associated with cerebellar hemangioblastoma: familial occurrence. *JAMA* 182:1014-1017, 1962.

5. Mulholland, S. G.; Atuk, N. O. and Walzak, M. P.: Familial pheochromocytoma associated with cerebellar hemangioblastoma: a case history and review of literature. *JAMA* 207: 1709-1711, 1969.

6. Nibbelink, D. W.; Peters, B. H. and McCormick, W. F.: On the association of pheochromocytoma and cerebellar hemangioblastoma. *Neurology* 19:455-460, 1969.

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Sexual Deviancy

Treatment: A Case Study of a Child Molester

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An account of an apparently successful course of treatment for a child molester is presented. A number of clinical issues that patients with sexual deviancy present are illustrated. A combined approach to treatment is outlined.

THE GENERAL practitioner has been increasingly called upon to focus on problems in the area of human sexuality. As society becomes more enlightened, episodes of sexual deviancy are more frequently referred to the medical and related professions, and seldom remain solely within the province of the legal system. With the increased number of sexual deviancy referrals, there is a corresponding need to develop additional knowledge and effective treatment approaches. Although combining dynamic and behavior therapies is not totally unheard of, there are few such cases to be found in the literature.[1]

A 28-year-old white married male was referred for evaluation and treatment by the local court, acting in consultation with his family physician. The patient, charged with sexually molesting several pre-adolescent girls, had revealed to his physician that, although this was his first arrest, there had been at least a dozen similar incidents dating back to his adolescence.

The nature of the patient's referral necessitated prompt action to stop his acting out sexual behavior and avoid a long term jail sentence. In addition, serious marital, employment and self-esteem problems were evident, and were assessed as contributing to the patient's deviant sexual behavior. Thus, it was decided to combine both aversion treatment for the rapid extinction of his deviant sexual behavior and the more traditional, longer term psychotherapy to alleviate his contributing personality problems.

History and Assessment

The patient was the eldest of two children, who spent most of his life in a Midwestern city of moderate size. When he was four years old, the death of his father in an automobile accident resulted in a period of economic hardship and his need to begin work at an early age. The patient's mother was perceived as an unaffectionate, controlling, and self-sacrificing woman. Her remarriage ten years later improved the family financial situation; however, the patient was expected to continue work and to contribute to household expenses. He did this, feeling both dominated and deprived.

Sex was an area avoided in the home during his childhood. The patient gleaned sexual information from his friends and had his first sexual experience at age 16. Sexual relations were sporadic and primarily with prostitutes, occasionally with pre-adolescent girls. There was, however, one girlfriend with whom he could share affection and some limited sexual contact. As he moved into adulthood, he dichotomized women as either understanding and appreciative or as controlling and rejecting.

In terms of school performance, his grades were average. The patient was rejected and taunted by his peers because of his obesity and tendency to be a "loner." To compensate for this, he developed athletic skills and did well on the high school football team. He enlisted in the navy following graduation, was trained as a machinist, and was honorably discharged. The patient married after a two-year courtship and the marriage produced two sons. His wife worked part time to help support the family. Long-term marital problems developed in the areas of sexual compatibility, the management of family finances, and communication. The patient tended to avoid responsibility or to project it onto his wife who, like his mother, was often seen as a controlling and rejecting woman with whom he felt inadequate and deprived. The patient expressed these feelings through dysfunctional coping responses of withdrawal and sporadic sexual contacts with pre-adolescent girls. His wife's responses of withdrawal, avoidance, and struggle for control tended to reinforce his low self-esteem and feelings of deprivation, feeding into a destructive cycle of marital interaction.

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The psychological testing revealed a man of average intelligence, highly depressed, and socially and emotionally isolated from others, even members of his own family. Anxiety, guilt, a negative self-image, and family discord were clearly apparent. It was felt that his deviant sexual behavior was rooted in the fear of mature heterosexuality and in his mistrust and feelings of alienation from adults.

Course of Treatment

Based on history and assessment, a course of treatment involving both aversive conditioning and psychotherapy was instituted. Our premise was that rapidly extinguishing the patient's impulse toward deviant sexual behavior would alter his pathological, emotionally draining stress-response pattern, thereby freeing energy for the learning of more constructive attitudes and behaviors during psychotherapy. The two modes of therapy were initiated concurrently, the aversive conditioning continuing for three months and psychotherapy for ten. Regular conference time between the two therapists allowed for coordination.

Aversive Conditioning Therapy

Prior to the first conditioning session, the patient was asked to collect pictures of young girls and adult women which he found sexually stimulating. Ten of each were mounted on white 8½ x 11″ paper, and numbered for use as stimulus pictures. These were randomly presented during every conditioning session, with instructions that he must hold and view each for a minimum of 15 seconds, so that electric shock could not be avoided. The patient was informed that he would be shocked randomly while viewing the child pictures, but never while viewing the adult pictures. It was planned that the anxiety induced by shock would generalize and lead to the extinction of child-molesting thoughts and behavior, while the anxiety reduction associated with no shock would lead to more positive feelings and behavior toward adult women.

After all 20 pictures had been presented, the patient was asked to close his eyes and envision a sexually stimulating scene involving a child. He received random shock during these fantasies but never during the alternate adult heterosexual fantasies. Each fantasy period was three minutes long and the sequence alternated between child and adult.

A modified SD5 Grassi stimulator was used to administer shock. Electrodes were attached to the dorsal and ventral surfaces of the wrist of the patient's nonpreferred (left) hand, so as to avoid any flow of electricity across his body. The shock level was set by the therapist at a level judged to be unpleasant by the patient and further adjustments were made throughout the session to compensate for adaption.

Sessions lasted 40-45 minutes. The patient rated each of the 20 stimulus pictures on a five-point scale of attractiveness-unattractiveness before every session. Mean ratings for child and adult pictures were graphed as one measure of change during treatment.

It had been planned to hold aversive therapy sessions daily for the first two weeks, then progressively less frequently, until the sessions were two weeks apart. However, the patient's irregular attendance during the first month made it necessary to re-schedule daily sessions at the beginning of the second month. A total of 26 sessions were held during a three-month period, followed by a single picture-rating session (without shock) two months later.

During the course of these sessions, ratings of young children gradually grew less positive until they were highly negative by the end of the second month *(Figure 1)*. Ratings of adult pictures rapidly became positive. In addition, the patient voluntarily reported no further attraction toward young girls, and a much improved relationship with his wife developed. His ratings remained at these levels five months after the beginning of aversion therapy when he was seen for the single followup session.

Psychotherapy

Psychotherapy consisted of weekly marital counseling sessions with the patient and his wife and, at intervals, individual sessions with the patient. This treatment focused upon the development of insight into his problems of functioning, as well as on his development of more gratifying behaviors in relation to the roles of husband, father, and breadwinner.

A number of key changes were made gradually during the course of psychotherapy. Initially immobilized by his feelings of guilt and depression, the patient began to slowly confront his problems and to formulate immediate goals and priorities during the first two months of counseling. He was able to obtain employment by the end of the second month, an activity which became a major source of self-esteem and did much to restore his self-confidence as a provider. By the end of three months, he had become financially more responsible, with the result that his wife felt more cared for and somewhat more able to express positive feelings toward him. The next two months of treatment saw an increase in communication and sexual relations between the patient and his wife. Both became more cognizant of the attitudes and behaviors that tended to precipitate conflict and friction. Their problems in the disciplining of the children and the management of finances decreased, and there was a general lessening of the power struggle between the two.

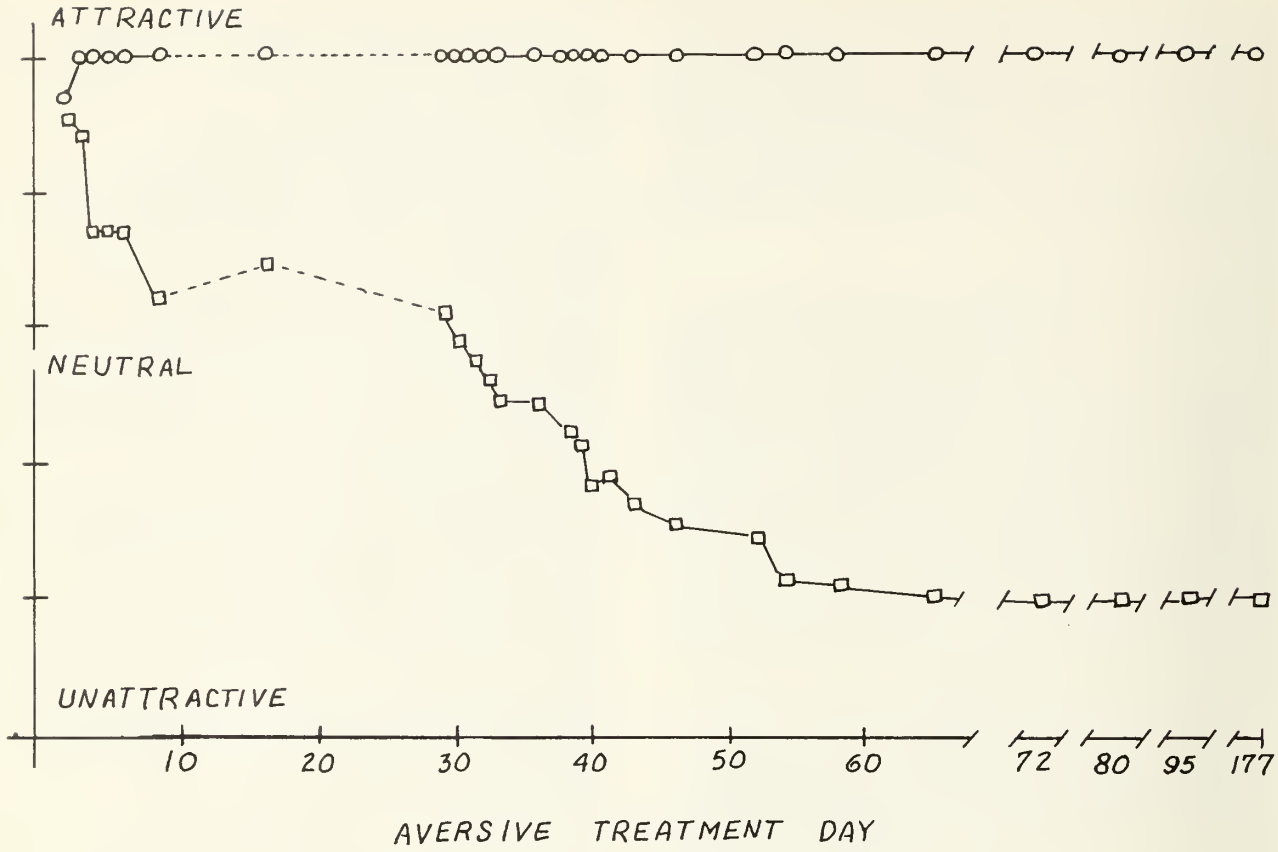

Figure 1

The total psychotherapy program lasted ten months, with the last two months devoted to consolidation of the gains made. Subsequent to the termination of treatment—at the end of three, six, and twelve months—there were followup contacts with the patient, his wife, and parole officer. The progress previously made was sustained on these occasions.

Conclusion

A case of child molestation, illustrating a number of key social, psychological, and legal dynamics at work in a problem of sexual deviancy has been presented. A combination of aversion therapy and psychotherapy as one possible approach to intervention was used as the mode of therapy. It is noteworthy that a number of significant gains were evident during the course of working with this patient. The pattern of sexually deviant behavior, as well as reported impulses toward this behavior, stopped. In addition, previously contributing personality difficulties moved toward resolution. Problematic marital and vocational functioning was much improved, and the patient was placed on parole.

In a series of followup contacts, the patient was still functioning satisfactorily on the job and in his marriage, without any recurrence of his sexually acting-out behavior. These results suggest that the combination of these two modes of therapy may prove to be effective in working with other cases of sexual deviancy.

Reference

1. Marmour, J.: Dynamic psychotherapy and behavior therapy: Are they irreconcilable? *Arch. Gen. Psychiat.* 24:22-28, 1971.

Lesions

(Continued from page 114)

15. Green, W. T., and Farber, S.: Eosinophilic granuloma of bone. *J. Bone Joint Surg.* 24A:449-526, 1942.

16. Freud, P.: Treatment of reticuloendotheliosis: use of corticosteroids and anti-folic acid compounds. *JAMA* 175:82-85, 1961.

17. Lahey, M. E.: Histiocytosis X: comparison of three treatment regimens. *J. Pediatr.* 87:179-183, 1975.

18. Starling, K. A. *et al.:* Therapy of histiocytosis X with vincristine, vinblastine, and cyclophosphamide. *Amer. J. Dis. Child.* 123:105-110, 1972.

19. Lahey, M. E.: Prognosis in reticuloendotheliosis in children. *J. Pediatr.* 60:664-671, 1962.

Kansas Psychiatry

The Present Plight

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PSYCHIATRY has been accorded a unique position among the various medical specialties in the history of Kansas medicine. In the post-World War II era of expansion in psychiatric training and service, Kansas has achieved a place of national, even world-wide distinction. Both of these facts are in large measure a tribute to the foresight, dynamism, and ingenuity of two men, the brothers Menninger.

The Topeka Insane Asylum opened in 1879. Although its name was later changed to Topeka State Hospital, and a training school for nurses was established in 1904, it operated in the custodial fashion of other post-Pinel, pre-pharmacotherapy mental hospitals throughout the country. With the availability of federal funding from the National Mental Health Act of 1946, Drs. Karl and William Menninger catapulted their modest Topeka-based Menninger Clinic (founded in 1925) into the hub of the most ambitious, massive single-specialty training enterprise ever assembled. Within less than a decade (by mid 1950s), the Menninger School of Psychiatry was enrolling 10 per cent of all the young physicians in psychiatric training in America.[1]

The federally-sponsored (NIMH and VA) massive expansion of training and treatment in Topeka was soon augmented by a local push for reform on the part of Kansas press and public. *A Study in Neglect* revealed, in 1948, that the odds against a patient in the state hospital returning to society alive were two to one. Franklin Murphy reported that, Kansas cannot borrow from other states the trained psychiatrists it needs.[2] The Kansas State Legislature responded by doubling appropriations and directing that Topeka State Hospital be made a training center for psychiatric personnel. By 1958, Kansas had attained first place among all states in adequacy of the physician staff, and second in maintenance expenditure per patient, as opposed to its ranking ten years earlier of second from the bottom among the states in the care of mentally ill.[3] Concentrated in Topeka, Kansas, was an unprecedented array of creative psychological thinkers, theoreticians, clinicians, psycho-historians and researchers, all sharing a predominantly psychoanalytic ideology; most of these leading teachers and therapists were eventually to be disseminated throughout the United States and many parts of the world. A legendary sign on the outskirts of Topeka reputedly proclaimed, "Psychiatric Capital of the World!"

Perhaps to avert the anguish of identity confusion, psychiatry tenuously clings to its medical heritage in spite of the incongruence of fitting even major mental illness to the traditional medical model. To compound the identity diffusion, waves of new theories periodically wash over the psychiatric community, as often as not promulgated by non-medical enthusiasts.

Psychiatry had had much difficulty delimiting and defining its officially recognized disorders. The present plight begins with the question of, What is a psychiatrist; what is the type and range of his services; and how does his role inter-digitate with the many medical and non-medical personnel?

What is the current state of this veritable psychiatric empire in Kansas? While no longer the locus of intellectual ferment of two and three decades ago, the Topeka psychoanalytic community continues to thrive, boasting one of some two dozen psychoanalytic (training) institutes in the United States. The Menninger School of Psychiatry, while no longer nationally preeminent in the production of psychiatrists, graduates approximately a dozen each year. In addition, the Department of Psychiatry at the University of Kansas Medical Center contributes an average of approximately half a dozen such medical specialists per year. And, finally, the Wichita Branch of KU's College of Health Sciences has embarked upon a training program in psychiatry which will slightly augment this output.

This pace of training and its corresponding scale of treatment of psychiatric disorders is a far cry from the

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pace set in the late 1940s and 1950s, when several scores of physicians gathered each year to learn from some of the foremost teachers in the field, and when the two large hospitals in Topeka housed patients numbering in the thousands. What has happened, and what is the present plight of psychiatry?

Psychiatry in Kansas and elsewhere has been undergoing a chronic kind of crisis. One aspect of this crisis is the disenchantment with psychiatry on the part of the public, as well as public officials at both the state and federal levels. The impetus for psychiatric training in the post-World War II era was attributable to the high rate of draftee rejection and mental breakdown among military troops and the swell of emotionally distressed, who after the war came to occupy half the beds in the Veterans Administration hospitals. Public recognition of the ubiquitousness of emotional disorders generated the hope of stemming the tide of mental illness through the training of a sufficiently large legion of psychiatrically-trained physicians. It was in such a spirit that the Mental Health Act of 1946 was passed to finance psychiatric education. State governments, with Kansas prominent among them, followed suit with substantial building programs and allocations for education.

By the mid-1950s, these institutions, in which many states, including Kansas, had invested heavily, began to undergo a profound shift in their adaptability and utility. No sooner had sufficient hospital beds been provided than it was found feasible, even desirable, to discharge many patients as rapidly as possible. The very monolithic institutions created to help the mentally ill were discovered to retard their process of recovery and even promote a chronic incapacitation. Furthermore, the dramatic decline in numbers of institutionalized mentally ill could be credited not to the substantial corps of highly trained dynamic psychiatrists, but to the advent of new, highly effective psychopharmacologic agents. For the seriously mentally ill, drugs proved to be far less costly and far more efficient than psychotherapy. The dyadic, psychoanalytic modes of therapy proved to be painstakingly slow, tedious, uncertain, even disruptive, expensive and applicable to the more verbal, less impaired "neurotic" portion of the population. In fact, a majority of psychiatrists, trained to some extent with public funds, abandoned the public institutions, gravitating toward the sanctuary of the private practice of psychotherapy. The State of Kansas began to scrutinize more carefully its retention of locally trained psychiatrists to staff the state institutions, as compared with the state's annual six-figure budgetary allocations to subsidize psychiatric training. Geographic distribution particularly plagues this state, and the problem is not confined to psychiatry. In psychiatry, however, in Kansas and elsewhere, the disenfranchized, the lower socioeconomic groups among whom major mental illness is more prevalent, have continued to have less accessibility to more prompt and more personalized treatment. The prospects for applying psychoanalytic methods to the multitudes of mentally ill had already dimmed. These people have more immediate needs, like a job, shelter, assistance with daily pedestrian problems. Although drugs reduce symptoms and make management easier, the enormous problems of social adjustment remain. The state hospital system in Kansas, paralleling the national trend, was able to reduce its patient population and average duration of hospitalization; however, the multitude of discharged patients, with varying degrees of social dibilitation and personality disorganization, do not readily find a niche in the community. The rate of recidivism remains high, and requires a supportive environment and social services considered beyond the province of psychiatry. The public enthusiasm regionally and nationally for large-scale training had proved to be overzealous. Even the huge research appropriations spawned by NIMH proved distressingly unproductive of clinically applicable causes or cures. The people had been led to expect too much.

In the 1960s, the emphasis shifted from treatment of chronic mental illness to primary and secondary prevention, *i.e.*, better education of the public, early detection and prompt intervention within the person's community, or at least rapid return to the community after brief hospitalization. This shift further outmoded the state hospitals which were too large, too far from population centers, and too oriented toward chronic illness. Entirely new building programs and personnel were required for this new approach. Psychiatrists were to venture out of their offices and into the community, not to treat, but to consult. They were suddenly to acquire expertise in the entire range of social problems which have a deleterious effect on mental health. Spurred on by President Kennedy's 1963 message to Congress on mental health, the 1963 Community Mental Health Center Act promised a full range of psychiatric service to the local community and the delivery of comprehensive mental health services to all the American people.[4] This promise, like those of massive training programs, psychoanalytic treatment, research into the cause of mental illness and state hospital systems, was doomed to disappointment. Problems of racial strife, poverty, war, rapidly changing values and mores, fragmentation of the family, and altered economics all proved to be more than psychiatrists in the community could cope with. What psychiatrists did

learn, however, was the degree of difficulty in altering one portion of a complex interconnected system without dislodging other portions of the system and producing unanticipated effects in more remote portions of that system. Such was the fate of ambitious expectations for ameliorating the massive community, racial, educational, sociocultural, economic, and political problems of this technological society.

This repeated crescendo of public enthusiasm and expectations, only to be met with ensuing disappointment, presents more than a public relations problem for psychiatry. In 1971, Kraft stated: "We have to ask ourselves if society's dissatisfaction with us is its way of saying: You have oversold us. We will pay the cost if you will produce the results you have promised."[5] With many huge social welfare programs competing for limited public resources, and in an era of inflation plus cost-benefit consciousness, the public may not be willing to pay just any cost. As psychiatry seems unable to solve society's ills, resources are being redirected away from specialty training which is often concentrated in metropolitan areas, and toward providing the primary medical care so long neglected. The new $2 billion Health Manpower Bill[6] requires as a condition for capitation to medical schools less specialty training and production of more primary care physicians. This bill attempts to deal with the geographic maldistribution of physicians by voluntary participation (National Health Service Corps and scholarships). It is evident that new problems are being addressed and new priorities being established.

The plight of psychiatry plunges deeper than public support of its programs or even sudden shifts in the role of the psychiatrist in the community. An impelling, unresolved, internally devisive issue is that of the area of knowledge, the boundaries of professional competence, and delimitation of expertise of the psychiatrist. In short, what is this person being trained to do?

Psychiatry straddles human problems which fall into at least two disparate clusters: (1) emotional problems in living, which poorly fit a medical model; (2) and major mental disorders, which, in certain ways, can be dealt with in a manner analogous to medical illnesses. The former seem to be products of more subtle, suboptimal childhood experiences and the learning of maladaptive coping mechanisms, whereas the latter have been revealed to be heavily loaded genetically, and it is possible to identify populations at high risk for breakdown in functioning along a spectrum of disorders approaching functional psychosis.

Psychiatry, then, straddles psychosocial cultural-familial-developmental issues on the one hand, and medical-molecular-neurophysiologic-genetic matters on the other. Adler criticized Freud for overemphasizing instinctual biological drives and paved a neo-Freudian path for exploring the social environment, the family, and the school in their influence on the developing child. Sullivan underscored the imprint of interpersonal relations on the personality. More recent attention focuses on family structure, its disintegration, divorce, sexuality, group process, the community, social systems, the judicial system, and even general systems theory. At the other end of the spectrum, psychiatry is making rapid advances in elucidating the action of neurotransmitters, mechanisms of action of drugs at the molecular level, neurohumoral regulation of emotion, and clearer elucidation of counterbalancing neurophysiologic pathways regulating mood, memory, and the cognitive and perceptual functions essential to maintenance of integration of the personality and the testing of reality. Add to this such diverse issues as mental retardation, child neglect, violence, alcoholism, drug addiction and delinquency, and it becomes apparent how broad, yet unclearly defined, is the scope of psychiatry.

Perhaps to avert the anguish of identity confusion, psychiatry tenuously clings to its medical heritage in spite of the incongruence of fitting even major mental illness to the traditional medical model. Hospital management of such disorganized patients of necessity delegates to paraprofessionals much of the daily contact with patients, thereby coercing the administrating psychiatrist to abandon, however reluctantly, the hierarchial head position accorded his medical confreres. The ensuing conflict over prerogatives of status once readily conferred upon the MD results in a scramble for power and additional role diffusion. A heated issue at the moment is organized psychiatry's contention that psychologists not be granted hospital privileges, traditionally the undisputed and exclusive domain of the physician. Large third-party insurance carriers have given mixed messages as to which kinds of mental health professional services and practitioners will be reimbursed. Psychiatry continues to have its brush fires and border disputes with clinical psychology, new breeds of psychological counselors, social workers, and even, alas, the ministry.

The implications for training are distressing, as the first-year psychiatry resident quickly discovers how conversant his psychologist colleagues are in personality theory, cognitive processes, learning theory, and interpersonal transactions. He is tempted either to question the relative utility of his medical background or to overidentify with the medical-organic aspects of psychiatry and resist exploration of the unconscious, especially his own.

While skill in recognition, diagnosis, and pharmaco-

logic management of major disorders of thought, behavior, and effect can be acquired in a year or two of residency, it requires far longer to develop the sensitivity, the oscillating empathy and dispassionate participation essential to an intensive, longer term psychotherapeutic relationship. The latter of necessity extends beyond the usual period of residency training and is not undertaken without personal sacrifice. One can readily imagine a pre-professional background more serviceable than the traditional medical training, which would prepare a person for this kind of career in intensive interpersonal relationships. It is, therefore, not difficult to understand the bimodal clustering of psychiatrists into organic-medical-type practitioners and psychoanalytically-oriented psychodynamic psychotherapists. Such disparity extends to attitude, expertise, personal philosophy, ideaology, level of abstraction, quality of communications, and application of treatment. Powerful personality predispositions contribute to an individual gravitating toward one or the other type. The highly intellectual, ponderous, and contemplative analytic type appears as a pedantic anathema to the pragmatic, energetic, action-oriented, drug-toting organicist. The former may, at the extreme, be content to explore in depth a few dozen individuals in a lifetime of work, while the latter cherishes visible results, does what works, and is eager to move on to the next case. The former poses probing queries, looking to restructure personality; the latter is concerned with results and cost, and graciously accepts a modicum of behavioral change or amelioration of symptoms. Some residency programs foster either the psychoanalytic or the organic view while subtly eschewing the other. Any program must struggle to represent both sides fairly. It may be noted that the two major programs for training in Kansas, while not entirely polarized, surely represent an approximation of these rather disparate types; the resident at the University of Kansas retains more of his medical identity and tends to *manage* more short-term cases, relying heavily on pharmacotherapy and a supportive-suppressive approach. At the Menninger School of Psychiatry there is more emphasis on longer term, intensive exploration of the personality in the dyadic psychoanalytic model. The former tends to produce diagnosticians who use drugs and suggestion, the latter psychotherapists who use the interpersonal relationship as an instrument for probing unconscious conflict.

To compound the identity diffusion, waves of "new" theories periodically wash over the psychiatric community, as often as not promulgated by non-medical enthusiasts. Thus advocates of primal scream, Gestalt, transactional, bioenergetics, and various sensory-feeling-experiential modalities attract their following. This diversity tends to blur the boundaries of psychiatry even further, inasmuch as these approaches are at variance with both the medical model and the highly self-disciplined psychoanalytic method. They do raise questions as to what remains the domain of psychiatry: is it ruling out neurologic pathology, detecting organic illness, treating psychosomatic disease, managing functional psychosis, restructuring neurotic character, modifying behavior, resolving marital problems, providing family therapy, a range of group therapies, sensitivity training, counseling ordinary emotional problems of living, marathon encounters (fully attired or not), promoting mental health, consulting on community problems, educating the public in child rearing, providing testimony to government agencies and courts, or all of the above?

The present plight of psychiatry, then, begins with the questions of: What is a psychiatrist; What is his or her area of expertise; What are the kinds of problems psychiatry can realistically address itself to; and What is the type and range of services such a trained person can provide for the local and regional community and for the nation? How does the role of the psychiatrist inter-digitate with the many non-medical and medical personnel whose disciplines overlap and who share areas of human concern? Psychiatry had had much difficulty delimiting and defining its officially recognized disorders. Some have even questioned whether mental illness is a myth, whether such conditions as "borderline" personality or homosexuality exist, and whether psychotherapy produces beneficial results. Psychiatry loses credibility when its representatives vehemently disagree in the misplaced arena of adversary judicial proceedings. Even within the field one marvels at the frequent lack of consensus in diagnosis, much less treatment, from one school to another, one region to another, one county to another.

The above questions lead to the next questions concerning the educational background and training which should be provided for the person to be called a psychiatrist. Who is to sponsor and to fund such training? To what extent are individual states like Kansas to share and perhaps export this national resource? Is it best done within the existing medical system of education? Much upheaval during the past several years has resulted from the issue of the extent to which a year of medical internship is essential following medical school but prior to specialized training in psychiatry.

Psychiatry has been plagued by serious ethical issues including confidentiality, extra-therapeutic involvement with patients, responsibility to others for a patient's be-

(Continued on page 142)

Socio-
ECONOMICS

Continuing Medical Education

An Evaluation of the Kansas Circuit Course for Physicians

JESSE D. RISING, M.D. *and* **ROBERT L. NETH,** *Kansas City, Kansas*

KANSAS CIRCUIT COURSES for Physicians have been operational for thirty years. The goal of the circuit course is to give physicians in non-urban Kansas more opportunities to avail themselves of continuing education. There is a total of 1,004 physicians of all types (including government service) practicing within a 75-mile radius of the circuit centers[1] excluding Sedgwick and Shawnee counties. Of the 1,004 physicians, 421 (42%) were enrolled in the 1975-76 circuit course.

It is customary to survey the enrollees in the Kansas Circuit Course for Physicians at the end of each season, to determine what motivates them to attend the courses, and what they consider to be their important features. There were 421 enrollees in the circuit course in the 1975-76 season, and questionnaires were sent to each of them asking, "What was your objective in attending the course? (Please be candid!)." They were also asked to indicate whether this objective had been fulfilled and if not, why. Both of these were open-ended questions with no indication of what answers might be expected.

The enrollees were also requested to indicate the relative degrees of importance of the following features of the course: (1) scientific content; (2) opportunity to exchange ideas with colleagues; (3) social contacts with colleagues; (4) opportunity to exchange ideas with physicians from the Medical Center; (5) opportunity to break the routine and get away from a busy practice.

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Address reprint requests to Dr. Rising.

In tabulating the 116 replies (29%) to the question, "What was your objective in attending the course?," it was possible to group them into a few general categories, with the following results:

	%
Keep up with advances in medicine	50
Get continuing medical education credit	7
Both of the above	24
Assorted miscellaneous answers	4
No answer	18

The question of whether the objective had been fulfilled was answered as follows:

	%
Yes	63
No	1
Partly	14
No answer	21

Those not completely satisfied thought that the lectures were too technical or dealt with conditions that were not often seen in primary practice. A few felt that some of the teachers "talked down" to the audience, or that the speakers were difficult to understand either because they did not properly use the audio equipment or because of an accent in their speech. *Table I* indicates the raw scores for answers to the question asking for an indication of relative importance of the course benefits.

In order to determine more precisely the significance of these raw scores, the total for "very important" was multiplied by 3; "important" by 2; "moderately important" by 1; and the value of 0 was assigned for "not important." The total weighted score for each of the

TABLE I

	Very Important	*Important*	*Moderately Important*	*Not Important*
Scientific content	51	50	8	0
Opportunity to exchange ideas with colleagues	19	51	27	11
Social contacts with colleagues	13	25	46	24
Opportunity to exchange ideas with physicians from the Medical Center	42	45	19	4
Get away from practice and break the routine	8	20	30	48

categories was then determined and this raw score was divided by 116 (the total number of replies) to arrive at a mean value for each of the categories. These scores were as follows:

Scientific content	2.3
Opportunity to exchange ideas with colleagues	1.6
Social contact with colleagues	1.2
Opportunity to exchange ideas with physicians from the Medical Center	2.0
Get away from practice and break the routine	0.8

As can readily be seen, the scientific content was rated approximately halfway between "very important" and "important," with the opportunity to exchange ideas with physicians from the Medical Center being second. A very high percentage felt that it was important to exchange ideas with colleagues, while moderate importance was attached to social contacts. Little importance was given to the break in routine.

As was expected, the majority of replies were favorable, because physicians in Kansas have had a long experience with the Circuit Course, and those who were not satisfied with it would not ordinarily be expected to enroll. There is little or no reason to suspect the candor of the respondents, inasmuch as the long experience with the Circuit Course has encouraged Kansas physicians to look upon the Division of Continuing Education (formerly the Postgraduate Department) and its field representatives as friends with whom they have never hesitated to be outspoken about their likes and dislikes. This candor has marked the relationship throughout its history and has been highly beneficial to the Medical School. For this reason it is interesting to note that exactly half of the respondents indicated that keeping up with medical advances (or something of that nature) was their sole objective in attending the course. It was expected that a higher percentage would indicate the importance of continuing medical education credit, either alone or in combination with keeping up to date. This shows only a slight increase over the 19 per cent who showed continuing education credits as being their major objective in 1974-75, before the state board regulation became operational. For relative importance, the scores are practically identical with those from last year, when the same survey was conducted.

References

Circuit centers are: Arkansas City, Colby, Concordia, Dodge City, Emporia, Garden City, Great Bend, Hays, Hutchinson, and Manhattan.

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The Respiratory Therapist

From Oxygen Orderly to Cardiopulmonary Technologist

HUGH S. MATHEWSON, M.D.,* DAVID C. ASSMANN† *and*
JOAN P. TAYLOR,‡ *Kansas City, Kansas*

Formerly the oxygen orderly, the respiratory therapist has evolved into a skilled health care professional. The development of this process and the role of the modern ARRT are presented.

Development of Respiratory Therapy

DISPENSING OXYGEN was a hospital chore allocated to the lowliest of maintenance personnel when the senior author of this article was a young attending anesthesiologist. Two archetypal figures are remembered. The first was an elderly man who had worked at menial tasks for many years. Everyone, including the page operator, called him by his first name; most of the staff did not know his last name, or if he had one. His position as oxygen orderly was assigned to him as he grew older because its duties were less arduous. The second was an intelligent and capable black man, who accommodated his superiors by coming on as a gentle buffoon. Behind the mask was a keen observer of the human condition, who possessed a common sense viewpoint of patients' problems and at times displayed a rare prognostic acumen. No clinical stature accrued to these individuals through years of service, and it occurred to few that either possessed the slightest capacity for clinical decision-making. At their retirement, their functionary capabilities were praised—nothing more. And yet it was apparent that lives were being lost from respiratory failure, and that no one possessed the time nor the expertise to salvage them.

Two developmental trends in clinical medicine led to the appearance of respiratory therapy as a health care profession. The first was the realization that most respiratory deaths are preventable; the second was the refinement of the mechanical ventilator. In retrospect, it is astonishing how wrong prognostic figures used to be for head and chest injuries, polyneuritis, confluent pneumonia, and status asthmaticus. Urgently needed were an expert in artificial respiration and a versatile and reliable machine sophisticated enough to free his hands. When these became available, mortality statistics in all varieties of respiratory failures declined precipitously. Nearly all this has been accomplished in the past 15 years.

Respiratory therapy services proliferated in the 1960s. The American Association for Inhalation Therapy, now the American Association for Respiratory Therapy (ARRT), founded in 1954, grew from a membership of 750 in 1960 to 10,000 in 1970, and to 19,000 in 1976. The certifying body for therapists and technicians, now called the National Board for Respiratory Therapy (NBRT), was founded in 1961; by 1976 there were 4,000 registered therapists and 13,000 certified technicians. The University of Kansas Medical Center (KUMC) has made a substantial contribution to this growth.

There were eight full-time employees and five students in the respiratory therapy section at KUMC in 1968. The number grew to nearly a hundred in the next five years; the figure presently stands at 69 employees, 20 graduate trainees, and 47 students. Much of this development came about through the energetic leadership of Clifford D. Bryan. An exceptionally brilliant graduating class in 1971 provided the training program with five faculty members; there are now eight therapists who devote their full time to teaching. The leadership training program, which offered a year of specialized didactic and experiential work for graduate therapists interested in supervisory administrative careers was begun in 1971. The program will be expanded to four years in 1977. The first three years will satisfy the requirements for registry; the final year will provide a variety of specialized clinical, educational, and administrative courses leading to a baccalaureate degree.

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Numerous examples can be cited of notable contributions made by KUMC therapists. Perhaps most outstanding was the establishment of the NBRT office in Westwood, Kansas, by Clifford Bryan in 1974. He served as executive secretary of the board for two years. Much recent work in revamping the board examination has been done by David C. Assmann, Coordinator of the Clinical Simulation Examination Project for the AART. Gareth B. Gish and Joan P. Taylor are assistant editors of *Respiratory Care*, the official publication of ARRT. Since the 1968 annual meeting of ARRT, held in Kansas City, KUMC members have participated in each succeeding session, both in organizational activities and program presentations. The first postgraduate symposium in respiratory therapy was held at KUMC in 1967, and has since been offered annually. The ARRT contingent at KUMC, now 20 in number, has been a potent force in shaping the destinies of the profession.

Role of the Respiratory Therapist

The presence of the respiratory therapist as an in-house medical professional has provided a new dimension to the care of the seriously ill. The therapist's role now includes the following:

1. *Airway clearance and maintenance*, and the care of indwelling endotracheal and tracheostomy tubes. The therapist can assist in performance of fiberoptic bronchoscopy;

2. *Oxygen therapy*. The "oxygen orderly" has been replaced by an individual trained to interpret blood gas values, and to offer a plan of oxygen administration based on physiologic principles;

3. *Mechanical ventilation*. The establishment of sophisticated volume ventilators as standard equipment in hospitals has, more than any other factor, legitimatized the therapist's role;

4. *Aerosol therapy*. This brings the therapist into the field of applied pharmacology. Beta adrenergic bronchodilators are potent drugs, and their safe employment requires mature judgment and experience. The confidence with which the medical community has delegated this function to respiratory therapy personnel indicates that the procedure is being handled with professional competence;

5. *Chest physiotherapy*. Originally a function of physical medicine, this has now largely been assumed by the respiratory therapy service;

6. *Pulmonary function testing*. Beyond the technical performance of spirometric procedures, the experienced therapist has shown that interpretation of data can be made most intelligently while the tests are in progress, and that on-the-spot evaluation is often more accurate than subsequent appraisal of the figures obtained.

Thus, the therapist has developed interpretive skills and diagnostic acumen, and can be entrusted with decision-making responsibilities in the appropriate clinical situation. Three areas of growth can be identified which illustrate these capabilities. They are:

1. *Management of ventilator cases*. The universal adoption of the ventilator checksheet indicates the need for unified control of the machine parameters. The therapist who attends the patient frequently and records the data soon acquires an accurate view of the clinical status and prognosis. It is the practice at KUMC to allow no one but the therapist to change the machine controls, although these changes are ordered by physicians. Empowered with exclusive access to the machine, the therapist can evaluate physician's orders, and may on occasion offer pertinent suggestions;

2. *Blood gas determination*. This entire procedure, from drawing the arterial sample to operation of the analyzer, is now included in the training program for therapists. The extent to which these functions are covered by the RT service is an individual decision to be made by the hospital. The therapist may be particularly useful in surgery, recovery room and emergency care areas, where *stat*. blood gases may be of critical importance in determining the treatment plan;

3. *Cardiopulmonary resuscitation (CPR)*. Although a large number of people may respond to the Code Blue, it is frequent not to find a person skilled in endotracheal intubation. Because the procedure cannot be taught on emergency basis, and the acquisition of skill requires firsthand experience, some programs now incorporate a rotation through the operating room, to permit the therapy student to intubate under close supervision. The intubation manikin is helpful, although as yet there is no available model which closely simulates the human upper airway.

Much of the foregoing development has occurred "on the job." The newer skills have become identifiable functions of the therapist as the clinical need for them arose. They have subsequently been incorporated into the program curriculum. If expansion of roles is rapid, education may lag far behind clinical development and the educator may be hard put to anticipate the needs of program graduates.

Minimum Competency

The boundaries of respiratory therapy began to assume some definable limits around 1970. To determine the cost of services, competency was pegged at about the level of the certified technician. In 1970, nearly all respiratory therapy in the United States was delivered

by technicians or non-credentialed people; of the 10,000 members of AART, only 1,280 were registered therapists. Little was said about their diagnostic or decision-making functions. It was assumed that their services would be explicitly ordered by the physician, and that the orders would be competently carried out without any particular need for feedback or evaluative comment.

In the past five years, however, the appearance of 2,666 newly-registered therapists has markedly elevated the competency of the entry-level practitioner. The Joint Commission for Accreditation of Hospitals (JCAH), in 1973, established minimum standards for respiratory therapy, and delineated the role and function of technician, therapist, and medical director.[1] The therapist now must be a competent technologist, as well as a competent clinical observer whose skills extend into diagnostic areas, including pulmonary function evaluation and the performance and interpretation of blood gas determinations. In the terminology of governmental regulatory bodies, the qualifications of the therapist correspond to those of the Physician's Assistant, Type B (specialized).

Professional Development

Permission to render medical treatment is a prerogative exercised solely by the patient. The respiratory therapist delivering treatment must gain this permission by assuming personal responsibility for competent and knowledgeable performance. The mediator and arbiter of clinical judgment is the physician;[2] he must determine the extent to which the evaluative feedback of therapists can be trusted. Much professional motivation can be encouraged if the therapist knows that his opinions are heard. If these opinions are known to be sound, the patient has acquired a valuable ally in resolving his disease condition. It is our belief that patients recognize this fact and also that they believe they are paying for care and evaluation, rather than for specific modalities of treatment. Viewed in this light, the controversies over IPPB versus incentive spirometry, for example, become largely meaningless.

Respiratory therapists can render effective clinical decisions only through careful orientation, training, and graded experience. Initiative is encouraged through case studies where all pertinent medical data are reviewed. Procedure manuals, which used to be mere cookbooks, are now constructed to show treatment plans as logical responses to clinical findings. The importance of this approach is clearly evident when the unstable physiologic status of the critically ill patient requires minute-to-minute diagnosis and treatment.

Specialization

The four-year trainee in respiratory therapy will specialize in administration, education, or clinical care. Of the three, clinical specialization is likely to evoke the most controversy among the health care professions. Critical care, emergency care, pulmonary function testing, neonatal respiratory therapy, and hyperbaric oxygen administration are only some of the areas covered. The prospective list is extensive, and there is much overlap with other delivery systems. Of especial interest is the membrane oxygenator, which requires the expertise of the cardiopulmonary technician for minimum competency. There is growing governmental concern over the recent proliferation of specialties, since overspecialization is viewed as wasteful of human resources and fiscally irresponsible. Inevitably, as the government assumes increasing responsibilities for health care cost reimbursement, it will dictate the clustering of health care professions into manageable numbers.

Specialized activities in respiratory therapy will probably be intramural in hospitals, since the therapist, unlike the nurse, cannot charge for individual services. Rehabilitative care of ambulatory patients can be accomplished by therapists only if strongly supported by physicians. In light of this, it would appear that the nurse clinician in pulmonary medicine is currently the person best qualified to give patient counseling and to supervise home care regimens.

Clinical Quality Assurance

The increased professional stature of the respiratory therapist is convincingly demonstrated by participation on hospital committees dealing with quality control. At KUMC, a therapist has served on the infection control committee for the past seven years. Utilization review committees find therapist input useful, since the service is participating in the care of nearly all critically ill patients. Contributions to medical audits and to peer review functions indicate a growing sense of responsibility, of which hospital administrators and medical staffs are increasingly aware.

Summary

A highly skilled respiratory care professional has evolved from the oxygen orderly; most of this development occurred in the past 15 years. Three levels of competency are now identifiable: (1) a minimum entry level now corresponding to the certified technician with one year of training; (2) a level of higher expertise represented by the registered (or registry eligible) therapist with two years of training; and (3) a special-

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Parent Counseling

Psychological Support of Parents of Children With Critical Heart Disease

MARGARET S. MILES, Ph.D., R.N., LEONE MATTIOLI, M.D. *and* ANTONI M. DIEHL, M.D., *Kansas City, Kansas*

CHILDREN are very important to families in contemporary America. They represent the beginning of life and the extension of our own lives into the future. Children are important as emotional security—they are someone to love and someone to give love in return. Children also bring social status to parents. Becoming a parent is a unique and important event.

Because of the emphasis placed on children in our culture, no death is more difficult to face than the death of a child. At one time, death of a child was a relatively common experience for parents and, often even expected. With the advent of modern medical techniques and improved health care, the death rate for children has been drastically reduced and death of a child is considered a rarity,[1] and yet, infants and children do die.

Causes of infant and child death include serious or surgically uncorrectable congenital heart diseases. Although strides are being made to treat and correct congenital cardiovascular defects, approximately 4,000 infants under age one year die each year of congenital heart disease.[2] In Kansas, 37 children died in 1975 from congenital heart disease and its complications.[3] Death can occur during infancy because of progressive, severe, unrelenting heart failure, severe cyanosis with hypoxia, or during high-risk surgical procedures while attempting to palliate or correct severe heart problems. Some children die because of complications of their cardiac problem, such as progressive pulmonary vascular obstruction with high pulmonary vascular resistance.

Thus, when an infant or young child is diagnosed as having critical congenital heart disease, the family is faced with a constant threat and fear of death. The stresses and strains on the family are many.

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Supported in part by a grant-in-aid from the Committee on Cardiovascular Diseases in the Young, American Heart Association, Kansas Affiliate, Inc.

Address reprint requests to Dr. Miles.

In an effort to help families cope with the stresses associated with serious illness and death of a child from congenital heart disease, the pediatric nurse specialist, who is a new member of the pediatric cardiology team at the University of Kansas Medical Center, has focused much of her energies in reaching these families both before and after the child's death. Some of the areas of crisis intervention for families at the time of serious illness and death include counseling of parents of children with surgically uncorrectable or high-risk correctable lesions, along with followup contact when death does occur.

The role of the pediatric cardiology nurse, in helping the parents during the immediate crisis of death, is described. Crisis intervention with such families before and at the time of death is stressed.

Crisis Intervention

The pediatric cardiology nurse specialist is immediately involved in the case when an infant or young child is admitted to the hospital because of a serious congenital heart problem. Her first contacts with the family are designed to develop a relationship, to determine who the family is and the special meaning this child has to them, and to assess their coping styles and needs. In collaboration with the staff pediatric cardiologist, the nurse specialist helps the family understand the child's physical problems, the diagnostic and treatment measures being done, and the prognosis. Pictures and diagrams are used to enhance their understanding. Candidness and truthfulness are vitally important but families are also given hope whenever that is possible. Hope is always important in helping a family come to grips with this tremendous blow to their ego.[4]

If the child's condition becomes worse, especially during a cardiac catheterization or heart surgery, the

physician involved immediately informs the nurse specialist about the complications. The nurse, working closely with the physicians and others involved in the child's care, gently conveys to the family the serious problems encountered, and helps them to gradually face reality. This kind of team work in communicating can help to prepare the parents to face the child's death if it occurs, so that it is not completely unexpected or shocking.

A three-month-old infant female with severe transposition of the great vessels, went to surgery in heart failure for an attempted physiologic repair. The surgery, considered a very high-risk procedure, was performed on emergency basis. The nurse specialist, having known these parents for several months, sensed that they were quite hopeful for a successful outcome and were emotionally unprepared for the infant's death. Twice during surgery, the nurse went into the operating room to be updated by the cardiac surgeon on the child's condition. The first time, the parents were given a report on the gravity of her condition along with some hope for success. After the second visit to the operating room, they were given only a report on the severity of the situation. It was at this point that the parents were able to begin facing reality and to share some of their fears and pain. The nurse stayed with them as they talked and cried. Hours later, when the child died, the nurse helped the family express their grief and pain and was available to help them decide whom to call first, whether to allow an autopsy, how to decide on a funeral home, and what to tell the other children. When they were ready to leave, the nurse briefly discussed grief with them, reminded them that the pain would last a long time, and urged them to communicate with each other about their pain and sadness rather than trying to protect each other.

Grief Counseling

Grief is the overwhelming suffering and intense emotions that flood parents in the time after the death of their child. Kubler-Ross[4] describes death as a "catastrophic force that you cannot stop." This leaves parents with a profound sense of helplessness. Hagan[5] describes the death of a child as a devastating blow to parents. Parents, in a post-death discussion group, regarded the loss of the child as losing a part of themselves.[6]

Based upon a review of literature and clinical experiences with parents who have lost children caused by the sudden infant death syndrome, congenital heart disease or leukemia, grief can be divided into three broad stages or periods.

The first is a period of numbness, shock, disbelief, denial, elation, aggression, panic, or confusion. With long-term chronic disease, a sense of relief may also be felt.[7] The second period involves violent grief and disorganization, which includes preoccupation with thinking about the child, intense yearning and searching for the child, believing that the child is still alive, guilt feelings, despair, loss of self-esteem, shame, disorientation, and helplessness. Physical symptoms such as sleeplessness, loss of appetite, sighing, and fatigue may also occur. The third period is that of reorganization. The pain becomes less intense, the good days outbalance the bad ones, the child can be remembered and discussed with more happiness, and the parents get involved in life activities in a realistic, rather than escapist, manner.

The period of greatest need for parents is during the middle phase of grief, which may last for many months. The emotional strains during this period can lead to personal and family stresses that are difficult to bear. The feelings of anger can lead to irritability with other children or with one's spouse. The guilt and self-blame may cause parents to continually search for answers to questions that are not answerable, or may cause parents to blame each other. Parents may experience difficulty in communicating and sharing their pain and suffering with each other which, in turn, often leads to marital stress. In addition, the accumulation of anxiety, fear, depression, and other reactions may cause parents to privately fear insanity. This is a frightening experience, and it is important that they be helped to realize that it is normal to have such feelings and reassured that they are not becoming psychotic.

Ideally, the pediatric cardiology nurse specialist begins followup counseling with grieving parents during the early phase of mourning. Kennell and Klaus[8] suggest that parents be seen personally and individually several days after the death, several weeks after that, and around six months after the loss of the child. Because many of the patients cared for at the University of Kansas Medical Center are from cities and towns located a considerable distance from Kansas City, the telephone was found to be the most useful means of maintaining contact and offering help. Parents who live nearby also are encouraged to return to the hospital for personal appointments with the nurse and pediatric cardiologist.

Parents are telephoned within a week or two after the death, and are then followed weekly or monthly depending on the needs and receptivity. Most of the contacts have been with mother; however, calls are made at night in an attempt to communicate with the father.

Grief counseling with parents initially consist of de-

termining where they are in the grief reaction. They are encouraged to communicate their problems. Each family is unique, and the content of each conversation is different and individual. Generally, they are helped by talking about the pain and sorrow of their loss, the events surrounding the child's death, their past relationship with the child, and their feelings of guilt.

Most of the parents already have extensive medical information about their child's specific cardiac problem and the cause of death. Sometimes, however, they need to ask questions about this information, to clarify misunderstandings or misconceptions. If an autopsy was performed, they may ask questions about the results. The most frequently asked question is: "Why did this happen to my baby?" Implied in this question are others: "What did I do wrong? Will my next baby have such a problem? I'm scared, what if I get pregnant again?" All of these questions are difficult to answer, and parents are told exactly that. They are given factual information about causation of congenital heart defects and risks of future pregnancy. When the parents continue to have questions about their child's condition, they are encouraged to talk with their private physician or come to the Medical Center to talk with the pediatric cardiologist and nurse.

The most important aspect of grief counseling is helping parents to understand the alterations in their emotions, that is, to understand the grief reactions they are experiencing. They need to know that feelings of anger, irritability, and guilt are normal. They feel relieved when they understand that other grieving parents have thought they heard or saw their dead baby, or that other parents have thought they were becoming insane. Understanding the normality of their grief reactions cannot be underestimated. This is an especially important aspect of intervention since many parents find they cannot talk about these feelings with others. A pamphlet[9] entitled, *The Grief of Parents* describes in understandable terms the grief process and the emotions involved. It is mailed to parents at an appropriate time, when the pediatric cardiology nurse believes that reading about the normality of grief will be helpful to the parent.

Parents are always asked about the response of the spouse to the death. Guidance and help are given in understanding the different ways in which grief can be experienced and expressed by different people. Like Kennell and Klaus,[8] the nurse makes a special effort to discuss the problems of a grieving male in our culture. To cope with his feelings, a father often develops a pattern of keeping very busy. Wives are encouraged to help their husbands express and share their feelings, so they can mourn more appropriately.

Parents are also asked about the reactions of the siblings to the child's death. The surviving children are often left out of the funeral rituals and the grieving process of parents in an effort to "protect and spare them." In reality, siblings are acutely aware of the loss and its meaning to them and their parents. The alterations in parental mood and behavior can be frightening to them, if not explained and discussed. Because some surviving siblings may feel overwhelmed, guilty or responsible for the child's death, they need to be told why the child died and why the parents are crying and sad. Explanations about death need to include physical death (his heart stopped, he doesn't need to eat, we buried his body), and social aspects of death (we miss him, he lives on in our memory), as well as the more abstract and difficult theological explanations. Parents are encouraged to allow the siblings to share in this family experience. Pamphlets, books, and articles dealing with children's reactions to death can be mailed to parents if they need further help in this area.

The nurse specialist conveys to the parents that they have the inner strength to recover, and that the pain and upset feelings will gradually diminish with time. It is important to remind parents that there will be good days and bad days. Birthday and death anniversaries, and important holidays, are especially difficult times. Parents are asked to be patient with themselves and their spouses when the bad days come, rather than avoid the grief. Parents who seem to be showing signs of pathological grief (depression, phobias, severe somatic complaints, psychotic behavior, obsessive thoughts, extreme guilt, marked hostility) or absence of grief are urged to talk with their own physician or to seek counseling in their local community.

Conclusion

The death of an infant or child from congenital heart disease is a crisis for parents and the entire family. The nurse specialist, a new member of the pediatric cardiology team at the University of Kansas Medical Center, participates in helping these parents during the immediate crisis of death and during the period of intense grief and pain. Crisis intervention with such families before and at the time of death is considered imperative in helping them face and cope with the fact of death. Followup counseling by telephone and in person permits parents to share and understand their pain and suffering and that of other family members. The nurse specialist conveys to the family that she recognizes the profound loss they have experienced. The involvement of this talented nurse clinician has added a new dimen-

(Continued on page 151)

The President's Message

Frequent reference to goals set for oneself earlier is necessary in evaluating any success achieved. At this stage of the game, with our legislature still pondering and court cases still pending, final results are not yet available which would allow us to evaluate all of our efforts.

However, we can observe progress which has been made in several fields:

Continuing medical education is certainly one of these fields. Programs have been planned, approved and implemented, so that no Kansas physician should have any difficulty obtaining his required hours for re-certification or re-licensure.

The transition into the implementation of our professional liability program is another accomplishment, although litigation is still in progress. At any rate, there is no physician in Kansas at present who is unable to obtain professional liability coverage.

With the revitalization of KaMPAC, this organization has seen its best year ever—in terms of membership. Certainly, this should help convince our elected representatives that we are willing to help them with the increasingly burdensome task of waging a political campaign.

Implementation of the Kansas Farm Bureau-Kansas Medical Society Medical Student Loan Fund is in the final stages. This undertaking should demonstrate to Kansans that we are interested in helping to locate physicians in rural and medically underserved areas.

Members of the Medical Society have been helpful and instrumental in establishing residency programs in several areas in Kansas.

Legislative concerns which are receiving attention from your Legislative Committee and the Professional Liability Commission include the following:

Optometric use of drugs;

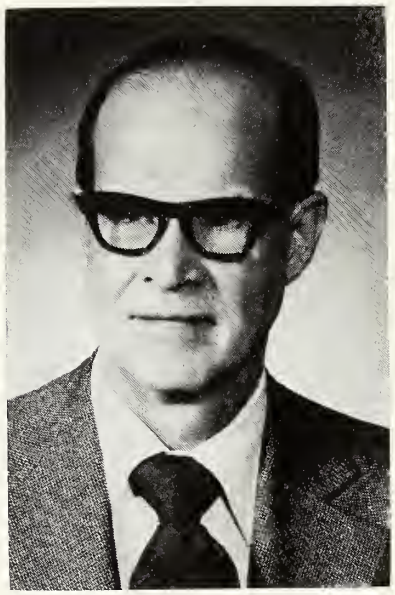
A bill which would indenture physicians by forcing them to practice in certain locations or pay exorbitant tuition for their medical training;

The perennial problems relating to the practice of medicine by chiropractors;

The role of physician extenders;

The composition of the Board of Healing Arts.

These are but a few of the many bills receiving consideration this year. For many of you there may never be a more important time to become informed on some



of the above issues, in order to effectively contact your legislators.

As one approaches an assignment such as the presidency of our organization, the tendency is to set certain goals, with the idea that most of them can be accomplished and completed. By the end of the year one can see some evidence of progress, but almost nothing is completed which does not require further work. In addition, new problems present themselves constantly.

A special gratitude is expressed to the various Council districts for the wonderful reception we received at their meetings. We shall long remember the friendship and fellowship experienced on those occasions. I appreciate your confidence in trusting me with this assignment during the past year. I beg of you to please continue to support your incoming President, Dr. John D. Huff, in the same way you have supported me.

Fraternally,

Emerson Goder, M.D.

President

When You Care Enough

Sorting through a pile of medical journals preparatory to their disposal gives one the impression that the medical profession spends a considerable amount of time in self-examination and assessment. Attempts to diagnose the various distresses of the body medical have been exhaustive and recommended therapies (even before the diagnoses are final) have ranged from cold showers through Christian Science to radical excision. This particular attack of professional introspection was brought on by an article encountered in a recent issue of *The Lancet* which reminded that the problems don't change too much, certainly not toward resolution.

The author of this particular contribution was a young (we presume—Class of 79, anyway) medical student at Harvard whose concern was the need to inspire the medical profession to a higher level of "caring." He proposed, as one mechanism, the incorporation into the medical curriculum of some formal attention to the handling of interpersonal relationships and orientation to social goals (which is the sociologic way of saying "caring").

Now at this point, let us say that his remarks were temperate, considered and altogether worthy, and our comments are not in contention but in extension of the thoughts he promoted. In his updating of this perennial concern, he readily admitted he had nothing new although, while not totally dismissing the instinctive character and "soft abstractions" of caring, he does present the thesis that this caring (which should be the hallmark of the profession) is a "skill," hence his advocacy of classroom status for it. Here we will take respectful issue as we suggest to the writer that he may be experiencing the same disquietude that afflicts every student of medicine as his inspired idealism is confronted with the practical necessity of adjusting to the pain, the organic corruption, the physical and mental blights which constitute the unsavory aspects of medical practice. The most traumatic event for the young physician is the realization that his efforts will not always be soothing and curative, that he will, himself, in the execution of his duty, inflict pain and disability, that this will be done in justice and fidelity to his professional obligation. Perhaps he is close to realizing that there will be times when his supply of caring will be depleted and, much as he regrets it, he simply won't be able to call up the degree of compassion required by the patient at that particular moment. And thus he becomes one with his colleagues, who sooner or later must suffer this criticism of not caring enough.

This realization of personal frailty is a crucial phase of medical conditioning for here the students begin to diverge, according to their individual characters and capabilities, into the various channels of medical practice, each of which will call for its own peculiar application of caring. Here they begin to develop their own armor against the incessant blows of practice. We accept that the profession must be periodically urged to renew its dedication to caring. But we doubt that the initial capacity can be obtained from the classroom any more than these transient episodes of emotional exhaustion can be avoided by intermittent refresher courses. For one thing, it can be noted that the efforts to prune the medical school curriculum have not been too successful, since new branches seem to grow as rapidly as others are removed. So there is, if nothing else, the practical problem of finding a place for lectures on interpersonal relationships as they apply to the consultation room and bedside.

We believe this concept of caring, along with a reasonable degree of intelligence, to be fundamental to the creation of a physician, and we also believe that both should be present when he presents himself at the medical school door. Without doubt, some formal discussions of interpersonal relationships somewhere along the line would help the individual to translate his caring capacity into effective service, but the student would derive more benefit from what he learned about himself than from learning techniques of caring. (He might even find that he didn't want to study medicine after all.) Putting it into the medical school curriculum

would seem to be a little like the traditional practice of leaving sex education to the parents: by the time they get around it it, it's already too late. If there is a need for exposure to formalized principles of the concept, it should be met no later than the premedical course.

The student-writer additionally urges that medical school admissions committees give deeper consideration to the caring potential of their candidates in making their selections. He acknowledges that these committees claim to take such into account, but states that "few premedical students believe it." We wonder if this belief (or disbelief) is not a function of the status of the application: those applicants, once accepted, will undoubtedly understand this act as confirmation of their high index of compassion, while those denied—or still in the limbo of waiting—will be sure, since they know themselves to personify this virtue, that the committees must be ignoring such considerations.

The point is well taken, however, that just such an assessment of the applicant would be a highly desirable accompaniment to the evaluation process. Not being in direct contact with any of those luckless individuals who must pass judgment on that mountainous pile of applications, we are not aware of the methods by which they determine this potentiality in any given case—other than the inevitable letters from various advocates which are generally masterpieces of evasive and insubstantial praise. We clearly ask too much of these people, especially if we are going to judge their function by the performance of their selectees in all of *their* subsequent functions. Until there is an objective method of measuring the capacity of the individual to maintain his milk of human kindness against the curdling thunder of practice, it will remain a hunch decision on the part of the committee.

Instead of attempting to incorporate a course in caring into the curriculum or expecting the doorkeepers to make impossible projections regarding the candidates, we suggest that it would be more effective for the faculty to be selected not only on the basis of acquired degrees or yards of published papers or memberships in rarefied specialty organizations, but coequal with their academic qualifications should be a demonstrated ability to project this caring quality. If this seems not much easier than detecting it in the applicant, at least the faculty candidate will have had more time to demonstrate his compassion quota. But the point is that students at every level are masterful at assessing their teachers. They can see through subterfuge and pomposity, and recognize the calloused and insincere—as well as the warmer spirits. Moreover, they respond positively to the commendable qualities in their teachers and, without the necessity of making it a separate course, will absorb both the pattern and the motivation. Some of the town group will look askance at the directing of any kind words toward the gown group, but it shouldn't be necessary at this late date to note that numerous academicians have a full measure of compassion and express it in their teachings while numerous private practitioners are cold fish. Neither group has a corner on the virtues or the vices.

Whether the concept of caring is inborn, or acquired from books or absorbed by precept, it needs rejuvenation and rehabilitation at times. But caring *is* an interpersonal relationship, and an estimate of the physician's effective caring must take into account the recipient-patient who, in any event, is the final judge. Nor can it be isolated from the system within which it functions. An expanding medical technology with its mechanization and depersonalization has contributed to a blurring of the physician's caring image. At the same time, the socialization and politicization of medical practice have made it increasingly difficult for the physician to maintain this particular rapport. This, ironically is the system whose purpose it is to express society's capacity for caring.—*D. E. G.*

Vox Dox

Vox Dox Editor:

Dr. Hugh Mathewson's paper, "Asthma: treatment and dangers," in the December JOURNAL, offers advice about asthma treatment which we believe is frequently misleading, often inappropriate, sometimes contradictory, and rather outdated. We will detail our objections and attempt also to offer suggestions for what we believe to be the correct approach to the treatment of asthma.

Under the subtitle "Indications," Dr. Mathewson states: "The dyspnea or sense of suffocation caused by bronchospasm is extremely variable, conditioned to a major degree by psychogenic factors. For this obvious reason, there can be no accurately measurable indices of respiratory function which reflect the need for a bronchodilator. Nevertheless, forced expiratory volume in one second (FEV_1) and peak flow values should be estimated if possible where indications are equivocal." These statements are confusing and contradictory. It is certainly true that the subjective appreciation of dyspnea is variable, and it is *because of* this that objective measurements in asthma are so vital. There can be *no* unequivocal diagnosis of asthma without some objective demonstration of reversible obstruction, since the current, accepted diagnosis of asthma is "reversible obstructive airways disease."[1] There are several readily

available and accurately measurable indices of respiratory function which can reflect the need for a bronchodilator, including FEV_1, peak flow, FEF_{25-75} (mid-expiratory flow rate), and timed vital capacities. Spirometry is not something that you do in only "equivocal" cases. The evidence today is that the clinical manifestations of asthma are not very helpful as a means of identifying bronchial obstruction. Indeed, in his very next paragraph, Dr. Mathewson says as much: "Tight bronchospasm or widespread mucus plugging may be attended by little auscultatory evidence. . . ." McFadden[2] and his associates have recently demonstrated that, regardless of the initial presentation of asthma patients, their overall mechanical lung function ranged from 40 to 50 per cent of normal when they were asymptomatic, and was only 60 to 70 per cent even when all physical signs of asthma disappeared. Their studies show that the indications for a bronchodilator are *always* equivocal, unless the asthma is so severe that the FEF_{25-75} is below 40 L/min, and the FEV_1 is below one L. Lest the reader suppose that this is a mere quibble on our part, we want to emphasize that the *key* to effective prevention of further attacks in asthmatics is recognition of residual abnormalities which serve "as a base upon which future attacks may form."[2] Franklin,[3] in a paper also cited by Dr. Mathewson, states: "It is important to determine the true role of airway obstruction. . . . Relatively simple tests are adequate for this purpose."

Dr. Mathewson's section on evaluation of asthma does not provide a very useful outline of how best to measure pulmonary function. The breathing bags and stopwatches he advocates are neither convenient or readily available to most physicians, nor would they be considered accurate instruments compared to what else is available. We recommend that bedside measurements be made with a Wright peak flow meter, a McKesson Vitalor, or the new Flo-Scope device. All are easily portable and quite accurate. In fact, the Flo-Scope fits in a pocket. Except for the (nowadays) rare, critically ill asthma patient in an ICU, most asthmatics are sufficiently ambulatory to have more detailed studies made on such equipment as the Jones Pulmonor, or can go to a hospital pulmonary function laboratory for complete spirometry and lung volume studies. Except for the Wright peak flow meter, we would not recommend any of the methods suggested in the Mathewson article as being reliable for needed, routine measurements of asthmatic airway obstruction.

Elsewhere in his paper, Dr. Mathewson states: "Many cases diagnosed as status asthmaticus in children could more accurately have been reported as bronchiolitis." In fact, the reverse is often true. Then he continues: "Here steroids may be helpful, but definitive treatment should be directed to control of causative organisms with antimicrobials." For some time now, it has been clear that neither bronchiolitis nor infectious exacerbations of asthma in children are associated with bacterial infections; instead, they are due to viruses. There is no evidence that steroids are helpful in bronchiolitis, as is implied. The use of antibiotics in either asthma or bronchiolitis is highly questionable. The reader may refer to numerous studies which support this contention, but a good summary can be found in the study by McIntosh, *et al.*[4]

Turning our attention now to the treatment of asthma as outlined by Dr. Mathewson, we can summarize our objections as follows: Epinephrine or its newer analog, terbutaline, are the drugs of choice for physician treatment of acute, severe asthma, *not* nebulized bronchodilators. For self-administered relief, isoproterenol or its newer analog, metaproterenol in nebulizers, are effective for sudden, mild to moderate attacks, but will have little effect on small airway obstruction in most patients, and seldom (if ever!) will restore maximal expiratory flow to normal values "within 5 minutes," as reported by Dr. Mathewson. Oxygen administration at 6-12 L/min is seldom indicated, and may be dangerous. Low flow rates (2-3 L/min) are preferred, unless the patient is *in extremis,* at which point ICU care with frequent blood gases permits flow to be adjusted to the patient's need. In one sentence, Dr. Mathewson correctly describes the onset of action of corticosteroids in asthma as "slow." However, in the next sentence, he suggests repeating intravenous doses of steroids "every 30-60 minutes as needed." In fact, one of his own references (Franklin) states, "even large doses [of steroids] are not effective for six hours or more." A practical mode of therapy is to begin steroid treatment with a bolus dose of Solu-Cortef in the range of 500 mg, repeating this or a lower dose no more than every 4-6 hours.

Theophylline (Aminophylline) is given fairly short shrift by Dr. Mathewson. But it is actually the primary and most important bronchodilator for use in most patients with status asthmaticus, who are by definition resistant to epinephrine and the inhaled beta agonists. It should be given intravenously to tolerance in such patients, and serum theophylline levels should be done to monitor blood levels, to achieve a therapeutic range of 15-20 mcg/ml.[5] The statement that "Aminophylline may be useful," is therefore misleading. Dangerously misleading is the advice that Aminophylline "should not be administered in dosage greater than 0.5 gm/hr." While literally true, anyone using the drug up to this implied limit would be grossly overdosing the patient. A safe maximum dose per 24 hours would generally be 2 grams, an amount that would be achieved in only 4 hours by anyone hewing to Dr. Mathewson's suggestion.

Since asthma is a more insidious and chronic condition than previously appreciated, certain other statements about treatment should be made. The role of oral bronchodilators on an around-the-clock basis has recently been stressed,[6] and we have found this to be vital. Newer drugs, such as cromolyn sodium and beclomethasone have proved highly successful in selected cases. Perhaps most important to the rational care of the asthmatic is correct diagnosis, with an appreciation for which patients have allergic factors involved, and which do not. Next most important is adequate preventive management to avoid crisis situations.

In our practice, the number of asthmatics requiring hospitalization has dropped dramatically in the past five years as these principles have been applied. We hope these comments and attendant references will enable the interested reader to achieve a balanced view of modern asthma management.

References

1. Farr, R. S. and Spector, S. L.: *New Directions in Asthma,* Stein and Myron (eds.). Park Ridge, Ill., Am. Coll. Chest Phys., 1975, p. 483.

2. McFadden, E. R., Jr.; Kiser, R. and DeGroot, W. J.: Acute bronchial asthma. *New Eng. J. Med.* 288:221-224, 1973.

3. Franklin, W.: Treatment of severe asthma. *New Eng. J. Med.* 290:1469-1472, 1974.

4. McIntosh, K.; Ellis, E. F.; Hoffman, L. S.; Lybass, T. G.; Eller, J. J. and Fulginiti, V. A.: The association of viral and bacterial respiratory infections with exacerbations of wheezing in young asthmatic children. *Pediatrics* 82:578-590, 1973.

5. Mitenko, P. A. and Ogilvie, R. I.: Rational intravenous doses of theophylline. *New Eng. J. Med.* 289:600-603, 1973.

6. Falleroni, A. E.: *Allergic Diseases,* R. Patterson (ed.). Philadelphia, Lippincott, 1972, p. 600.

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Vox Dox Editor:

The following response is offered to the critique submitted by Drs. Ransom and Kavel.

1. Indications—The discussion is written plainly and straightforwardly and should occasion no misinterpretations by the reader. Psychogenic factors are important, but do not detract from the need for spirometric data. No statement is made to indicate that spirometric studies should be confined to equivocal cases.

2. Evaluation—There is no question that sophisticated spirometric equipment yields diagnostic data superior to that obtained at the bedside with simpler devices. Let me assure my critics that the use of breathing bags and stopwatches, which they deprecate as inaccurate, are the life and substance of the practice of anesthesiology, and yield valuable diagnostic information to the initiated. They are also more readily available in emergency areas, particularly in small hospitals. One may be hard put to find a Wright respirometer in such installations. The paper does not address itself to the study of the patient who can be taken to a pulmonary function laboratory for study.

3. Failure of therapy—The confusion of status asthmaticus with bronchiolitis can be stated either way, depending on one's point of view. The author has heard the statement as given in the paper repeatedly made by pediatricians. Mindful of the possibility of a faulty memory, I verified this with my pediatric colleagues.

The author lays no claim to expertise concerning the microbiology of bronchiolitis. However, it is certain that efforts must be made to control infection if the condition persists. The use of antimicrobials to suppress secondary bacterial invaders would seem obvious.

4. Recommended treatment—The statement concerning restoration of maximal expiratory flow and vital capacity refers to the effects of the drugs administered to relieve bronchospasm. If the major problem is mucus plugging, these values will not, of course, be restored until airway clearance is effected. No distinction is made at the outset between mild and severe asthmatic episodes. Aerosolized beta adrenergic drugs are certainly more effective in milder attacks—so also are other bronchoactive drugs and therapeutic modalities. This does not preclude their usefulness in any case where relief of bronchospasm is the primary concern. The use of parenteral epinephrine in severe cases is affirmed.

The recommendation that oxygen be given at 6-12 L/min is confined to the discussion of severe asthma attacks. Under these circumstances close surveillance of the patient is necessary, and the possibility of oxygen apnea must be recognized. These patients are often normocapnic or even hypocapnic, and their central response to CO_2 challenge is unimpaired unless there is preexisting obstructive lung disease. Low flow oxygen is acceptable only if hypoxia is effectively relieved.

The use of corticosteroids and aminophylline largely reflect the opinions of the authorities cited in the bibliography. After having administered aminophylline intravenously for some years in anesthetic practice, I am convinced that: (1) it can be titrated intravenously with relative safety within the limits suggested; (2) its effects are occasionally salutary; and (3) predictability of its bronchodilator efficacy is difficult. The value of serum theophylline levels is not disputed. Where the drug is not efficacious it should be discontinued before toxic doses are administered—this would apply to any drug.

The points on oral bronchodilators, cromolyn, and

beclomethasone are well taken, but are outside the scope of the paper.

To summarize, the contributions of specialists in allergy touch on many areas where clarification would add to the value of this paper. The statement that certain sections are inappropriate or contradictory seems unwarranted in view of the documentation and the clinical observations of the author. If the advice concerning treatment is rather outdated, as alleged, its fall from currency is recent indeed, since the references cited are as late as 1974. Finally, if the therapeutic advice is misleading, as asserted, I can only conclude that it leads the reader in a different direction from one which would be proposed by Drs. Ransom and Kavel.

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Neurocutaneous Syndromes

(Continued from page 121)

7. Wise, K. S. and Gibson, J. A.: Von Hippel-Lindau's disease and pheochromocytoma. *Brit. Med. J.* 1:441, 1971.
8. Van der Hoeve, J.: Eye diseases in tuberous sclerosis of the brain and in Recklinghausen's disease. *Trans. Ophthal. Soc. U. K.* 43:534, 1923.
9. Hume, D. M.: Pheochromocytoma in the adult and in the child. *Am. J. Surg.* 99:458-496, 1960.

The Respiratory Therapist

(Continued from page 133)

ist level requiring four years. Respiratory therapy is increasingly becoming oriented toward patient care, and less technical-skill oriented. Clinical decision-making receives more emphasis in training programs. The respiratory therapist of today bears the stamp of a true professional, participating on quality assurance committees and in community health organizations.

References

1. *Accreditation Manual for Hospitals, Respiratory Care Services.* Joint Commission on Accreditation of Hospitals, Chicago, 1973.
2. The Medical Director (position paper by ATS Respiratory Therapy Committee). *Amer. Thorac. Soc. News.* American Lung Association, New York, 1976, Pg. 8.

Kansas Psychiatry

(Continued from page 128)

havior, rights of hospitalized patients, involuntary hospitalization (commitment), criminal responsibility, and the ethics of certain treatment procedures like conditioning, lobotomy, and electro-shock. Ethical issues creep into the training process such as the utilization, accreditation and status of foreign medical graduates, protection for the consumer, and standards for specialty certification of psychiatrists.

How will psychiatry respond to its present plight? In the scale of its services, in the magnitude of its programs of training and treatment and in its breadth of activities, psychiatry will undergo some retrenchment. Role definition, both within psychiatry and vis-à-vis other professionals offering related services, remains a difficult problem. The present thrust is for psychiatry to entrench itself more firmly as a medical specialty, and this is likely to be further fostered by the extent to which national health insurance restricts payment for mental health services.

At the state level, Kansas will prove to have an irreducible level of need for mental health services in both public and private sectors. Kansas must continue to replenish its supply of educated professionals, thus sustaining its programs, even if on a more compact scale.

While training nationally has retreated from its highs a decade ago of some 270 programs and 4,300 positions, the contribution of Kansas has declined in a proportionately greater magnitude. Training and treatment will continue and most likely stabilize near to present levels. Support both nationally and locally is remarkably sensitive to the vicissitudes of economic and political life. In an era of rapid change, fluid shifts in priorities, role reappraisal, and exquisite self-consciousness, one can readily appreciate the present plight of psychiatry.

References

1. Winslow, Walker: *The Menninger Story.* Doubleday, Garden City, New York, 1956.
2. Foland, Carolyn: *The Development of the Office of Public Information of Topeka State Hospital.* Unpublished Thesis, 1969.
3. State of Kansas 41st Biennial Report: *Ten Years of Progress, Topeka State Hospital, 1948-1958.* State Board of Social Welfare and State Directors of Institutions, Topeka, 1958.
4. Ebaugh, Franklin G.: The evolution of psychiatric education. *Amer. J. Psychiat.* 126:92-100, 1969.
5. Kraft, Alan M.: Psychiatric education—at what cost? *Bull. Menninger Clin.* 55:431-434, 1971.
6. "Month in Washington." *J. Kansas Med. Soc.* 10:425, 1976.
7. Grinker, Roy, Sr.: Psychiatry rides madly in all directions. *Arch. Gen. Psychiat.* 10:228-237, 1964.

KMS Obituaries

GREGG B. ATHY, M.D.

Dr. Gregg B. Athy, of Columbus, died January 27, 1977, at the age of 68. He was born February 22, 1908, in Ellis.

Dr. Athy was graduated from the University of Kansas School of Medicine in 1934. His internship was served at St. Margaret's Hospital, Kansas City, Kansas. He established his medical practice in Columbus in 1935, retiring in 1970 due to ill health.

Dr. Athy is survived by him wife and a son.

MANUEL E. PUSITZ, M.D.

Dr. Manuel Elias Pusitz, 72, of Topeka, died February 5, 1977. He was born December 18, 1904, in Toronto, Canada.

Dr. Pusitz was graduated from the University of Toronto Medical School in 1929. He served his internship at the State University of Iowa Hospital. He was an orthopedic surgeon and practiced in Topeka from 1933 until his retirement in 1970.

Surviving Dr. Pusitz is a daughter.

RICHARD E. SPEIRS, M.D.

Dr. Richard E. Speirs, of Dodge City, died December 6, 1976, at the age of 65. He was born December 13, 1910, in Ellingwood.

Dr. Speirs was graduated from the University of Iowa School of Medicine in 1933. He served his internship at Harper Hospital, Detroit. During 1933-34, he joined his father, Dr. G. O. Speirs, in medical practice in Spearville. After a surgical residency at the Receiving Hospital, Detroit, Dr. Speirs established his surgical practice in Dodge City, in 1946.

Survivors include his wife and three daughters.

Woman's Auxiliary

Open Letter to the Doctors of Kansas

Dear Kansas Physicians,

Spring is in the air, our Auxiliary chapters are rapidly completing their year's activities, and incoming presidents are thinking about next year's programs.

The AMA Leadership Conference in Chicago was an excellent meeting. It is a fantastic opportunity for one to receive a three-day course covering many problems facing the medical community, and an up-to-date briefing on what is going on in Washington. Speakers representing the AMA, HEW, and Labor Department were excellent, although sometimes a little biased. AMPAC presented an excellent seminar, filled with some humor. Ann Landers was the principal speaker. Other outstanding speakers were George Will, George Gallup, Jr., Senators Talmadge and Eagleton, Dr. Malcolm Todd, two interesting English physicians, and an English hospital administrator.

Recently, I was a guest of the KUMC Resiterms group, and was delighted with the intelligent, capable, and talented wives of the KUMC residents. This group distributed a fact folder for consumer purchases in their area, and there was every type of business listed with comments relating to costs and reliability of the business. Johnson and Wyandotte physicians could probably use a copy. Hopefully, you physicians can recruit these young men and their wives, and they will remain in Kansas and share their talents with our Kansas Medical Society and Auxiliary. These young people are the future grassroots of both organizations, and we need to let them know we are interested in their activities, projects, and ideas.

We also visited the Reno Auxiliary, which is an active hospital-oriented auxiliary, active in community service and recreational participation under the leadership of Sally Depenbusch. Following the first mid-winter board meeting in Salina, we visited the Flint Hills group, which is another civic-minded Auxiliary, with Ann Burgeson as president.

Auxiliary members are looking forward to our KUMC-legislative trip, March 14-15, which will begin with a 12:30 luncheon at the Medical Center, followed by talks and a tour of the Medical Center. The evening is free for dinner-theater or shopping. Tuesday, we will attend the House and Senate sessions in Topeka, and also enjoy a noon luncheon with a guest speaker. Mmes. John Young, Jack Walker, and Ned Burkett are our hostesses. We hope a large number of interested wives especially from eastern Kansas will take advantage of this opportunity to learn more about the Medical Center and the legislative activity in Topeka.

An earnest plea for contributions for AMA-ERF from those of you who have not yet made a contribution is in order. Our year is closing, and our AMA-ERF Gold Dust twins, Mmes. John Yulich and Frank Bichlmeier, have done an outstanding job for Kansas, and especially the KU Medical School. The mailing address is: 2106 Chester Court, Kansas City, KS 66106.

Please mark your calendar for May 1-4, and plan to join us in Wichita for the State Convention. The Wichita gals have outstanding and exciting events planned for your wife, and we will also welcome her to attend all our meetings.

Sincerely,
Jean Cavanaugh
President
Woman's Auxiliary to the
Kansas Medical Society

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Personalities—IN KANSAS MEDICINE

Garland L. Campbell, Arkansas City, was a speaker at a recent meeting of the Pueblo County Medical Society (Colorado).

Kansas Division, American Cancer Society, elected **Joseph E. McMullen,** Hutchinson, to the board of directors.

W. W. Scamman, Topeka, has been named director of Lattimore-Fink Laboratories, succeeding **A. A. Fink,** who retired.

Elected Vice-President of the Joint Council of Allergy and Immunology was **Robert J. Dockhorn,** Shawnee Mission.

James T. Fowler, Osawatomie, closed his office after 40 years of medical practice.

Seminars on Orthopedic Problems were recently coordinated in Great Bend by **C. Reiff Brown,** and by **Ernie J. Chaney** in Belleville.

Donna A. Vaughan, Newton, spoke on "Surgical Management of the Diabetic Patient" at a public meeting.

The demands to teach and recruit physicians in rural Kansas communities have led **Jack D. Walker,** Overland Park, not to seek re-election as mayor of the state's fourth largest city.

William M. Kane, Jr., Hays, was the principal speaker at a nursing seminar dealing with perinatal care. Also participating in the program was **Robert N. Enberg,** Hays.

The keynote speaker at the annual meeting of the American Diabetes Association was **Richard A. Guthrie,** Wichita.

Ren Whitaker, Oberlin, participated in the program of evaluating the community emergency medical services capability.

"Women and Their Health" was the topic of a presentation given by **Evalyn S. Gendel,** Topeka, at a public meeting.

Robert W. Fernie, Hutchinson, was honored for his services to the community.

Longtime Cheyenne County physician **Thomas J. Walz,** St. Francis, recalled "Memories of a Country Doctor" in a recent celebration of Kansas Day.

Wendell K. Nickell, Salina, was a speaker at a meeting of the United Ostomy Association.

The Kansas Medical Society—1976-1977

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Month in Washington

A concerted and united effort by industry and labor to control medical costs is needed to avert a federal takeover of health which would "result in national expenditures of truly astronomical proportions," contends the President's Council on Wage and Price Stability.

Asserting that the day is coming fast when the people discover "how much they must increasingly sacrifice simply in order to maintain the status quo in health care services," the Council said the public's response would be to turn to the government for a solution.

"Absent any major changes in the structure of the medical care system between now and then, the federal government will step in, and when that happens, we are going to be faced with a permanent problem which will defy solution," said William Lilley, acting Council Director, and his deputy James Hedlund.

In a lengthy report on rising health care costs, the Council said "cost control incentives proposed by the private sector—that is, by industry and labor—promise to be more effective than those imposed by the multitude of government agencies which have attempted to tackle the problem . . . the private sector is motivated by an economic incentive which the government will simply never share."

The report said the government, in its Medicare and Medicaid programs, has a poor record of controlling costs. "The blizzard of rules and regulations which would accompany full federal financing and administration of the health industry would add to costs and reduce the limited incentives that now exist for efficiency and cost containment," the Council said.

The report pointed to company programs which encourage a second opinion before elective surgery. Some corporations have set up inhouse medical facilities because they have learned that this is a less expensive way of providing their employees with health care. In other localities, corporations and unions have become involved on hospital boards and area-wide planning bodies to eliminate duplication of facilities and introduce other cost-saving efficiencies.

The Council urges the private sector to step up its efforts many fold—it must apply the full measure of ingenuity and management skills which are so characteristic of the American system. In short, the private sector "must start doing more, a lot more."

The report mentioned "strong opposition from a highly respected, well-organized medical establishment. Private efforts at cost-control are difficult to undertake in the face of this opposition, and difficult to achieve, but we remain convinced that the goal of quality health care, at reasonable costs, is attainable within the context of a largely privately disciplined system. Indeed, we feel it is only within the context of the private system that it is attainable."

The American Medical Association and state and local medical associations "have played a central role" in helping the Senate spotlight Medicaid fraud and abuse. The credit was given by Sen. Frank Moss (D-Utah), Chairman of the Senate Aging Subcommittee that conducted the well-publicized investigations of "Medicaid Mills."

The Senator also said "the number of physicians who cheat" is very small.

In a letter to Richard E. Palmer, M.D., President of the AMA, Moss said "The Illinois Medical Society, the Chicago Medical Society and the Illinois Physicians' Union were directly responsible for my subcommittee's exposure to the problem of Medicaid 'Mills.'" The abuses highlighted in the subcommittee's report "exist for many reasons but AMA inaction isn't one of them," said Moss. The Senator said the subcommittee's criticism "was not directed at contemporary medical practice."

"It was directed at a growing aberration in our urban ghettos called the Medicaid 'Mill.' The culprits we identified are greedy businessmen and real estate speculators. The same people we found pyramiding nursing home mortgages in New York. Now they have found a new gravy train. They hire foreign-trained physicians (we include podiatrists and chiropractors in the definition) and pressure them to see more and more patients in less and less time. The entrepeneurs keep from 50 to 70 per cent of the money Medicaid pays to the foreign practitioner."

In Medicaid, the "ripoffs" are taken by the clinic owners who more often than not are not physicians, said Moss. Since the number of providers who abuse the Medicaid system may be 4 per cent of total Medicaid participating physicians (including chiropractors and podiatrists) or less than 2 per cent of all physicians in the United States, this is hardly a blanket indictment, the Senator said. He endorsed a statement by Dr. Palmer that other providers have a far worse track record as far as cheating the system. "I would include, for example, nursing homes, pharmacies that specialize in welfare clientele, and clinical laboratories that do a high volume of Medicaid business."

The lawmaker wrote that "only with the assistance of the medical profession can we seek to end the fraud and abuse which now haunts our government health

care programs. We can bring providers who bill for services not rendered to the bar of justice, but a more complicated scheme inevitably involves questions of medical judgment which only physicians are capable of rendering."

A commission to study prescription drug usage and adverse reactions has been formed with the blessings of Senator Edward Kennedy (D-Mass.) and the funding of the Pharmaceutical Manufacturers Association (PMA).

PMA answered a challenge by Kennedy that the drug makers confront the problem by agreeing to fund an independent study commission for three years at $250,000 annually.

"The problem of adverse drug reactions is definitely a problem," stressed PMA's Chairman Robert R. Clark.

Both Clark and Kennedy hope the commission will be able to design a system for post-marketing surveillance of drugs by the Food and Drug Administration, so that both adverse reactions as well as new drug indications become more quickly known. Such a system, termed "Phase IV" by Kennedy, could shorten the wait for pre-market approval of new drugs.

The 18 members of the Joint Commission on Prescription Drug Use were nominated by pharmaceutical and medical groups, including the AMA.

Congress is showing increased interest in the problems of maintaining confidentiality of medical records in the age of computers and vast federal medical programs. The House Commerce Subcommittee on Oversight and Investigations is considering hearings on the issue.

The most serious evidence of abuse so far came with state grand jury indictments in Denver, of an investigative company—Factual Service Bureau, Inc.—on charges of selling confidential records to large insurance firms. Factual was alleged to have had agents who were able to penetrate the records of the Federal Bureau of Investigation and the Internal Revenue Service, among others. Twenty defendents, including three insurance companies, have been indicted so far in the investigation launched by Colorado District Attorney Dale Tooley, who claims the evidence so far "is really the tip of a nationwide iceberg." Federal agencies are also pursuing the case.

The House Oversight Subcommittee, headed by Rep. John Moss (D-Calif.), is carrying on a running dispute with the Social Security Administration over the privacy of medical records in the Medicare program. "We believe very serious questions remain about privacy of records concerning individuals in custody of the Social Security Administration, especially in light of future

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*INDICATIONS. Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows

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Final classification of the less than effective indications requires further investigation.

CONTRAINDICATIONS. Administration of Antivert (meclizine HCl) during pregnancy or to women who may become pregnant is contraindicated in view of the teratogenic effect of the drug in rats.

The administration of meclizine to pregnant rats during the 12-15 day of gestation has produced cleft palate in the offspring. Limited studies using doses of over 100 mg./kg./day in rabbits and 10 mg./kg./day in pigs and monkeys did not show cleft palate. Congeners of meclizine have caused cleft palate in species other than the rat.

Meclizine HCl is contraindicated in individuals who have shown a previous hypersensitivity to it.

WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Usage in Children: Clinical studies establishing safety and effectiveness in children have not been done; therefore, usage is not recommended in the pediatric age group.

Usage in Pregnancy: See "Contraindications."

ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

More detailed professional information available on request.

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plans," said Moss in a letter to the Social Security Chief.

Social Security operates three data transmission systems which link private Medicare intermediaries with the Social Security Health Insurance Data Bank. The two less sophisticated computer systems, the Advanced Record System (ARS) used by private Medicare intermediaries in 16 locations, and the Programmable Magnetic Tape Terminals (PMTT) used by Blue Cross/Blue Shield and all but two other private intermediaries, use record retrieval systems "which cannot be abused by any employee of a private contractor either in an authorized or unauthorized manner," said Moss.

The Dean's Letter

(Continued from page 104)

program in the next year. The program in Continuing Education, now available for over 20 years in Kansas, not only allows faculty the opportunity to visit many communities where they establish contacts with colleagues but serves as an on-the-spot consultation in many difficult situations of patient management.

Across the nation, health care providers have a great opportunity to work with others in helping to solve some difficult problems in health care and in health education through planning under the aegis of the Health Service Agencies. The faculty of the College of Health Sciences, both Kansas City and Wichita, welcome the opportunity to work with their colleagues in practice in an effort to bring their expertise and points of view to bear on solving difficult problems. In this regard, the faculty has reaffirmed its support of the report by Walker, Dudding, Chin and Harkins, for the regionalization of health care, education, and services throughout the state. I believe it is important for all elements of the health care team to scrutinize this report, so that together we might consider ways in which we can make a greater impact on health care throughout the state. Although the Medical Center is frequently singled out as the chief agency in the state to produce the changes which seem necessary for manpower distribution and health care generally, it is very obvious that Medical Center personnel cannot do this alone. I am anxious that we find ways to work with others in the private sector and in government to produce a better program for our state and region.

In general, the status of the University of Kansas Medical Center can be regarded as good. I look forward to having a chance to see these new efforts flourish even more. We always need help, so send me your suggestions for how we can improve.

"AMMY" AWARDS: MEDICAL BOOKS 1976

American Medical Writers Association announces its Annual Book Awards competition for Best Medical Book Published in 1976 in the following three categories:

Book for Physicians
Books for Lay Persons
Books for Non-Physician Health Professionals

Conditions

- Books previously submitted in this Awards program will not be considered.
- Only first editions will be eligible unless basic reorganization of the work has taken place, such as change from single or dual authorship to editor-and-multiple-authorship with complete rewriting; annually updated or series volumes will not be judged.
- Two copies of each book submitted, which will become the property of the AMWA, are requested. These are to be sent to: American Medical Writers Association, 5272 River Road, Suite 290, Bethesda, MD 20016.

Awards will be made to the authors at the Annual Meeting of the Association, September 27 to October 1, 1977, at the Americana Hotel in New York. Award recipients will be invited to attend the Awards Banquet at that meeting.

Questions about the Awards program may be addressed to William F. Hewitt, Ph.D., Chairman, AMWA Book Awards Program, 5272 River Road, Suite 290, Bethesda, MD 20016.

You are invited to submit entries now. *No entries received after April 1, 1977.*

LOWER HOME TEMPERATURES BETTER FOR HEALTH

Americans who have responded to energy conservation pleas and kept their home temperatures somewhat lower this winter are probably healthier than those who have continued to overheat their dwellings.

Temperatures in the mid-60s are healthier than temperatures in the mid-70s, says William Barclay, M.D., editor of the *Journal of the American Medical Association.*

Heating the interior of home and offices during the winter removes moisture from the air. The higher the temperature, the dryer the air. Air with little moisture aggravates bronchial and other respiratory problems. It can contribute to dry throat and nose, coughs and dry, itchy skin.

The respiratory system doesn't cope well with sudden changes in temperature. Moving from an overly warm

room into outside cold affects the body adversely, causing coughs and respiratory difficulty, says Dr. Barclay. The body adjusts to temperature changes gradually.

Parent Counseling

(Continued from page 136)

sion to the pediatric cardiology program at KUMC and its service to children and their families.

References

1. Friedman, S. B.: Psychological aspects of sudden unexpected death in infants and children. *Pediatr. Clin. North Amer.*, 21:103-111, 1974.
2. Nadas, A. S.; Fyler, D. C. and Castaneda, A. R.: The critically ill infant with congenital heart disease. *Mod. Concepts Cardiovasc. Dis.*, 11:53-58, 1973.
3. Kansas State Department of Health and Environment. *Selected Causes of Death by County of Residence and Sex and by Age Group*. State of Kansas, 1975.
4. Kubler-Ross, E.: *On Death and Dying*. New York, Macmillan Company, 1967.
5. Hagan, J. M.: Infant death: nursing interaction and intervention with grieving families. *Nurs. Forum,* 13:371-386, 1974.
6. Fischhoff, J. and O'Brien, N.: After the child dies. *J. Pediatr.*, 88:140-146, 1976.
7. Lansky, S. B.; Lowman, J. T.; Gyulay, J. and Briscoe, K.: A team approach to coping with cancer. Cullen, J. W. (ed.): *Cancer—The Behavioral Dimension,* National Cancer Institute Monograph. New York, Raven Press, 1976.
8. Kennell, J. H. and Klaus, M. D.: Caring for parents of an infant who dies. *Maternal-Infant Bonding*. St. Louis, The C. V. Mosby Company, 1976.
9. Miles, M. S.: *The Grief of Parents*. Department of Pediatrics, Section Pediatric Cardiology, University of Kansas Medical Center, 1976.
10. Spoon, D. D.: *A Child's Understanding of Death*. Cooperative Extension Service, Kansas State University, Manhattan, 1975.
11. Hardgrove, C. and Warrick, L. H.: How shall we tell the children? *Amer. J. Nurs.*, 74:448-450, 1974.
12. Lee, V.: *The Magic Moth*. New York, Seabury Press, 1972.

Nominating Committee

(Continued from page 93)

Vice-Speaker

M. Robert Knapp, M.D., Wichita. Born in 1923. Graduated from New York College of Medicine in 1947. Is engaged in the practice of Anesthesiology. Has served as Councilor. Is currently serving as Vice-Speaker.

John O. Yulich, M.D., Kansas City. Born in 1933. Graduated from the University of Kansas School of Medicine in 1959. Is in Family Practice. Has been active in KMS committee work.

AMA Delegate

Clair C. Conrad, M.D., Dodge City. Born in 1927. Graduated from the University of Kansas School of Medicine in 1955. Practices Internal Medicine. Is now serving as AMA Delegate and Speaker of KMS House of Delegates.

Ivan E. Rhodes, M.D., Wichita. Born in 1925. Graduated from the University of Oklahoma School of Medicine in 1949. Is engaged in the practice of Radiology. Is currently serving as Councilor.

Thomas F. Taylor, M.D., Salina. Born in 1926. Graduated from the University of Kansas School of Medicine in 1953. Is engaged in Family Practice. Has served as Speaker of the House, KMS President, and Chairman of KaMPAC.

AMA Alternate Delegate

Richard Meidinger, M.D., Topeka. Born in 1937. Graduated from the University of Kansas School of Medicine in 1965. Is engaged in the practice of Radiology. Is currently serving as Councilor.

Lew W. Purinton, M.D., Wichita. Born in 1923. Graduated from the University of Kansas School of Medicine in 1948. Is engaged in the practice of Internal Medicine. Is currently serving as AMA Alternate Delegate.

John W. Young, M.D., Shawnee Mission. Born in 1937. Graduated from the University of Tennessee School of Medicine in 1963. Is engaged in the practice of Plastic Surgery. Has been active in committee work.

CONTINUING MEDICAL EDUCATION
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- Fingertip Injuries
- Evaluation of the Unconscious Trauma Patient
- Cardiopulmonary Aspects of Massive Trauma
- Evaluation of the Sore Back
- Panel Discussion: Acute Care and Rehabilitation of Spinal Cord

Luncheon Speaker: Medicolegal Aspects of Trauma

Fee: $15

Credit: 7 hrs AMA-PRA

Advance registration and INFO: Mrs. Bernida Miller, St. Catherine Hospital, 603 N. 5th, Garden City, KS 67846. Phone: (316) 275-6111, Ext. 211.

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4201 West Victoria Street, Chicago, Illinois 60646, an American company

Beltone
WHEN A HEARING AID WILL HELP

TURN IT OFF WITH

AZO GANTANOL®

Each tablet contains 0.5 Gm sulfamethoxazole and 100 mg phenazopyridine HCl.

FOR THE PAIN

- Quickly relieves painful symptoms such as burning and pain associated with urgency and frequency.
- Recommended antibacterial therapy: up to 3 days with Azo Gantanol, then 11 days with Gantanol (sulfamethoxazole).

FOR THE PATHOGENS

- Effectively controls susceptible pathogens such as *E. coli, Klebsiella-Aerobacter, Staph. aureus, Proteus mirabilis* and, less frequently, *Proteus vulgaris.*

*nonobstructed; due to susceptible organisms

Before prescribing, please consult complete product information, a summary of which follows:

Indications: In adults, urinary tract infections complicated by pain (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms (usually *E. coli, Klebsiella-Aerobacter, Staphylococcus aureus, Proteus mirabilis,* and, less frequently, *Proteus vulgaris)* in the absence of obstructive uropathy or foreign bodies.

Note: Carefully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response; add aminobenzoic acid to follow-up culture media. The increasing frequency of resistant organisms limits the usefulness of antibacterials including sulfonamides. Measure sulfonamide blood levels as variations may occur; 20 mg/100 ml should be maximum total level.

Contraindications: Children below age 12; sulfonamide hypersensitivity; pregnancy at term and during nursing period; because Azo Gantanol contains phenazopyridine hydrochloride it is contraindicated in glomerulonephritis, severe hepatitis, uremia, and pyelonephritis of pregnancy with G.I. disturbances.

Warnings: Safety during pregnancy not established. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported and early clinical signs (sore throat, fever, pallor, purpura or jaundice) may indicate serious blood disorders. Frequent CBC and urinalysis with microscopic examination are recommended during sulfonamide therapy.

Precautions: Use cautiously in patients with impaired renal or hepatic function, severe allergy, bronchial asthma; in glucose-6-phosphate dehydrogenase-deficient individuals in whom dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

Adverse Reactions: *Blood dyscrasias* (agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia); *allergic reactions* (erythema multiforme, skin eruptions, Stevens-Johnson syndrome, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis); *G.I. reactions* (nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis); *CNS reactions* (headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia); *miscellaneous reactions* (drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L. E. phenomenon). Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia. Cross-sensitivity with these agents may exist.

Dosage: Azo Gantanol is intended for the acute, painful phase of urinary tract infections. *Usual adult dosage:* 2 Gm (4 tabs) initially, then 1 Gm (2 tabs) B.I.D. for up to 3 days. If pain persists, causes other than infection should be sought. After relief of pain has been obtained, continued treatment with Gantanol (sulfamethoxazole) may be considered.

NOTE: Patients should be told that the orange-red dye (phenazopyridine HCl) will color the urine.

Supplied: Tablets, red, film-coated, each containing 0.5 Gm sulfamethoxazole and 100 mg phenazopyridine HCl—bottles of 100 and 500.

ROCHE

Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

DYAZIDE®

Trademark

Each capsule contains 50 mg. of Dyrenium® (triamterene, SK&F Co.) and 25 mg. of hydrochlorothiazide.

MAKES SENSE FOR LONG-TERM CONTROL OF HYPERTENSION*

Before prescribing, see complete prescribing information in SK&F Co. literature or PDR. A brief summary follows:

* **WARNING**
This fixed combination drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual patient. If the fixed combination represents the dosage so determined, its use may be more convenient in patient management. The treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

* **Indications:** When the fixed combination represents the dosage determined by titration: Adjunctive therapy in edema associated with congestive heart failure, hepatic cirrhosis, the nephrotic syndrome. Corticosteroid and estrogen-induced edema, idiopathic edema; hypertension, when the potassium-sparing action of its 'Dyrenium' component is warranted.

Contraindications: Further use in progressive renal or hepatic dysfunction; hyperkalemia. Preexisting elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs. Routine use of diuretics in otherwise healthy pregnancy.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in severely ill patients with urine volume less than one liter/day, the elderly or diabetics, with suspected or confirmed renal insufficiency. Periodic determinations of serum K^+ should be made. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **The presence of a widened QRS complex or arrhythmia in association with hyperkalemia requires prompt additional therapy.** Thiazides are reported to cross the placental barrier and appear in breast milk; fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and other adverse reactions that have occurred in the adult may result. When used in pregnancy or in women who might bear children, weigh potential benefits against possible hazards to fetus. Adequate information on use in children is not available.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics, or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spironolactone is used concomitantly, determine serum K^+ frequently; both can cause K^+ retention and elevated serum K^+. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving Dyrenium® (triamterene, SK&F Co.), and leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with thiazides. Do periodic blood studies in cirrhotics to check for nondrug-related variations in blood pictures, and in patients with folic acid depletion, since 'Dyrenium' may contribute to appearance of megaloblastosis. Antihypertensive effect may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

Supplied: Bottles of 100 and 1000 capsules; Single Unit Packages of 100 (intended for institutional use only).

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and caffeine, 32 mg.

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(Warning: May be habit-forming);
and acetaminophen 300 mg.

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Program Issue

THE Journal OF THE Kansas Medical Society

APRIL
1977

VOL. LXXVIII
NO. IV

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APR 29 1977

A character all its own.

Valium (diazepam) is a benzodiazepine with a character all its own. Pharmacologically, it has been described as more potent mg-per-mg than other available anxiolytic benzodiazepines. Pharmacokinetically, only Valium provides active *diazepam* as well as the active metabolites 3-hydroxydiazepam, desmethyldiazepam and oxazepam.

But the individual character of Valium is even more apparent clinically than pharmacokinetically. And far more significant. That's because of the patient response obtained with Valium. A response which brings a calmer frame of mind. A response which has a pronounced effect on the somatic symptoms of anxiety, particularly muscular tension. A response which helps the patient feel more like himself again because of the way Valium reduces the overwhelming symptoms of anxiety and psychic tension.

Another important aspect of the clinical character of Valium is safety. Though drowsiness, ataxia and fatigue are possible, these and more serious side effects are rarely a problem. Of course, as with all CNS-acting drugs, patients taking Valium should be cautioned against driving, operating dangerous machinery or the simultaneous ingestion of alcohol.

Unquestionably, many psychotherapeutic agents, including other benzodiazepines, have antianxiety effects. But one fact remains: you get a certain kind of patient response with Valium. It's a response you want. A response you know. A response you trust as part of your overall management of anxiety and psychic tension.

Valium® (diazepam) IV

2-mg, 5-mg, 10-mg scored tablets

a prudent choice in psychic tension and anxiety

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma, may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

***Usage in Pregnancy:* Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed, drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported, should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

ROCHE

Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

Oliver E. Ebel

1909-1977

It is easy to take a man of mediocre talents and make him larger than life after his death. It is not easy to comment on a man of superior ability and many accomplishments if one would not offend his memory by violating his wishes. The fact of Oliver Ebel's service to the Kansas Medical Society is simple: he came to the Society in 1944, and served as executive secretary as well as business manager of the *Journal* until his retirement in 1975. He would have us stop there, but there is more to say whether he would want it or not.

One would wish to note his tremendous enthusiasm for so many things—enthusiasm which could not be destroyed even by debilitating illness. He would deny that it was extraordinary—it was so natural to him, he assumed others were the same. By all means, one should record his loyalty to person and cause by which he rendered invaluable service to Kansas medicine through innumerable crises—and events which would have been crises but for his foresight and astute action. He would probably be puzzled by that. He performed only as the inner man required.

We can say he had a transcendent ability to reconcile the conflicts of purpose and personality which confronted him in the conduct of Society affairs without sacrifice of principle. He would measure it in terms of what others had done to help. And despite the stresses and incursions of his career, it can be remarked, he managed to provide example, inspiration, and love to a charming and brilliant wife and family. He would insist it was the other way around.

So in the end, it becomes a matter of restraint. It wouldn't do to diminish the man by promoting an image, however accurate, that he would have found uncomfortable. Let us say that he did well and made it possible for others to do better than they knew or could have done without him. We think he would have accepted that.—*D.E.G.*

Volume LXXVIII, Number 4—April, 1977

The JOURNAL of the KANSAS MEDICAL SOCIETY

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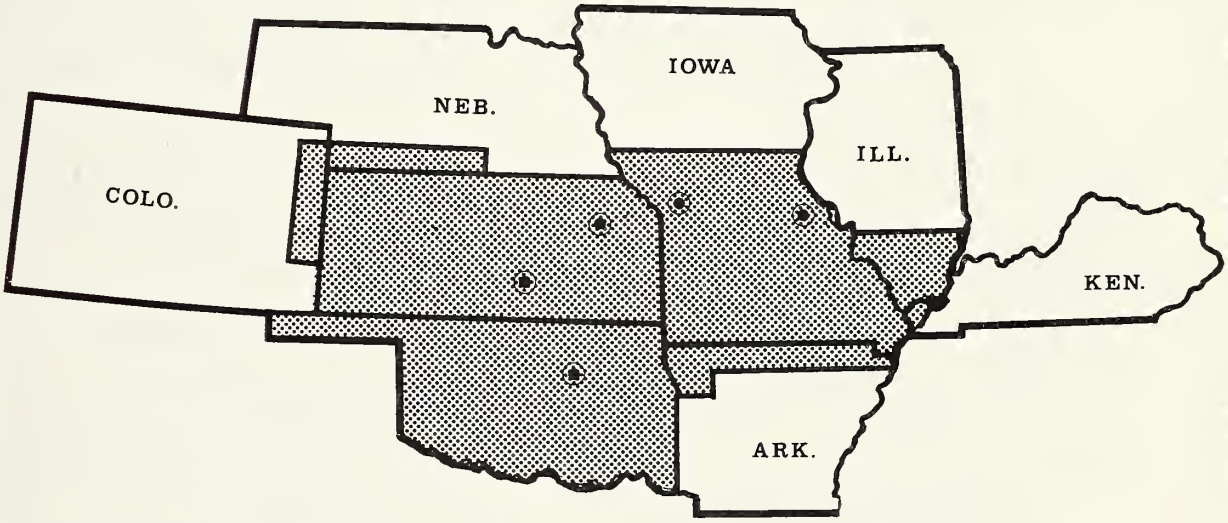

ARE YOU TAKING ADVANTAGE OF IT?

TOPEKA • KANSAS CITY • WICHITA

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Kansas Medical Assistants Society

37th Annual Convention
April 29-May 1, 1977, Canterbury Inn, Wichita

Friday, April 29

2:00 Registration
3:00 Executive Council
8:00 "The Sky's the Limit"
—Courtesy Munns Medical Supply Co., Inc.

Saturday, April 30

7:30 Past President's Breakfast
Education Chairmen Breakfast
Mini Test
8:30 Registration
9:30 General Session
Harriet Caldwell, Pittsburg, Speaker
Call to Order
JoAnn Mzhickteno, President Kansas Medical Assistants Society
Welcome
Charles R. Jackson, M.D., President Medical Society of Sedgwick County
Response
James M. Donnell, M.D., Mayor City of Wichita
Greetings
Val Burris, RT, CMA-AC, President Sedgwick County Medical Assistants Society
12:00 CMA Luncheon
Chapter Presidents Luncheon
1:30 Corneal Transplants
Stephen K. VanDerVliet, M.D., Wichita
3:30 Medico-Legal Implications
Edward S. Brinton, M.D., J.D., Wichita
Henry Etta Brinton, J.D., Wichita
3:45 S.O.S.—Emergency Medicine
Dean Kortge, Ph.D., Wichita
7:30 Banquet
Greetings
Emerson Yoder, M.D., President The Kansas Medical Society
Presentation of Awards
Installation of Officers
Entertainment

Sunday, May 1

8:00 Buffet Breakfast
Uniform Style Show
—Compliments Local Uniform Company
Executive Council Meeting
9:00 Call to Order
JoAnn Mzhickteno, President, KMAS
9:30 Care of the Neonate
Sergio A. Bustamante, M.D., Wichita
10:45 "Crash Landing" Aeronautical Medicine
William J. Reals, M.D., Wichita
12:00 Luncheon
Presentation of Gavel
Introduction of 1978 Officers
Mary Klinge, RT, President Kansas Medical Assistants Society

118th Annual Session
KANSAS MEDICAL SOCIETY

May 1-4, 1977
WICHITA, KANSAS

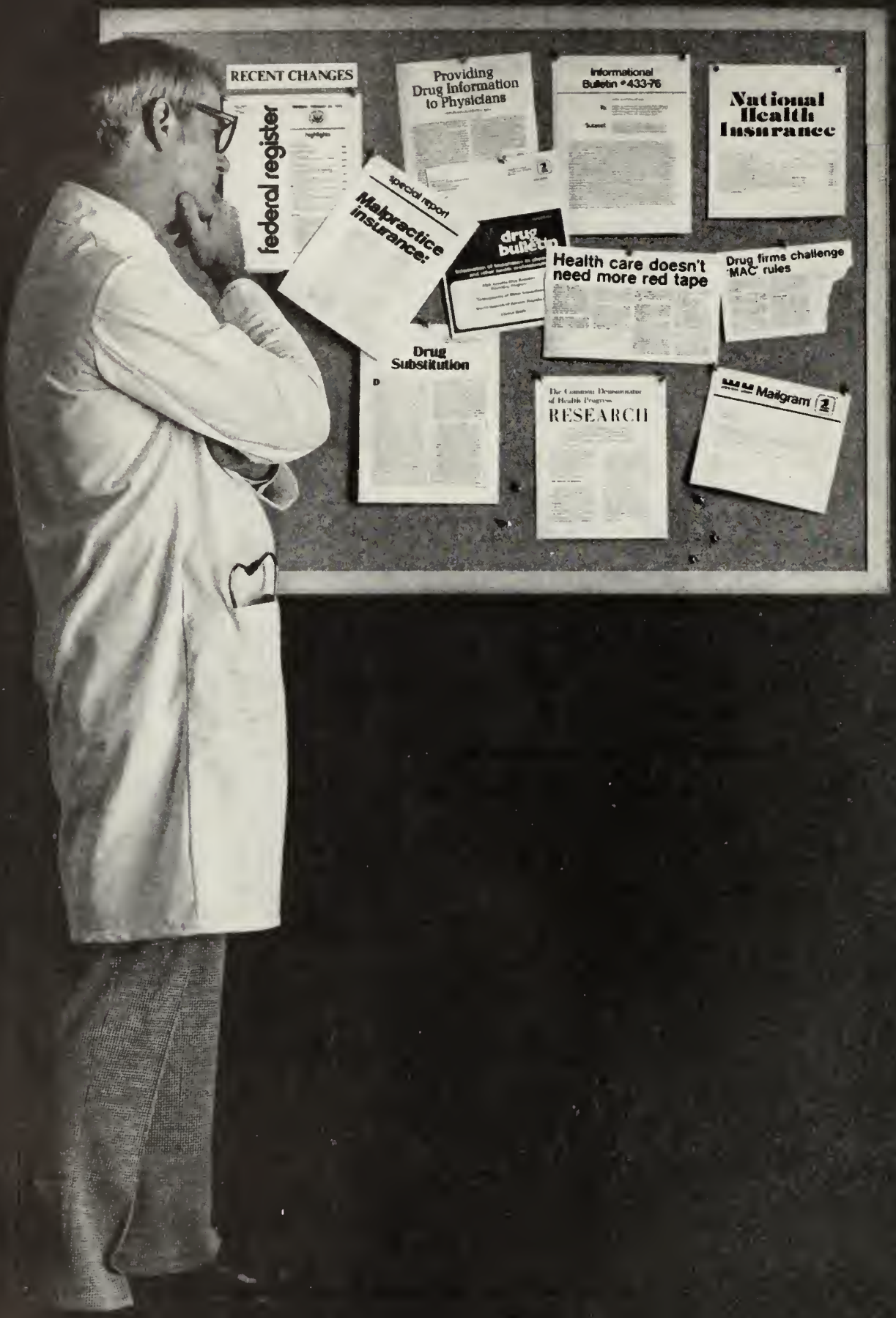
Sunday, May 1—House of Delegates First Session, 9:00 AM —Broadview Hotel

Monday, May 2—Sports Day, Crestview Country Club

Tuesday, May 3—Scientific Sessions, Broadview Hotel, 8:30 AM

Wednesday, May 4—House of Delegates Second Session, Broadview Hotel, 8:30

Make Your Reservations Now!


RECENT CHANGES
federal register
Providing Drug Information to Physicians
Informational Bulletin #433-76
National Health Insurance
special report
Malpractice insurance:
drug bulletin
Health care doesn't need more red tape
Drug firms challenge 'MAC' rules
Drug Substitution
The Common Denominator of Health Progress
RESEARCH
Mailgram

THERE ARE A LOT OF PEOPLE GETTING BETWEEN YOU AND YOUR PATIENT.

Medicine today is in the spotlight, subjected to all kinds of scrutiny. Your control over patient therapy is being monitored, judged and occasionally abrogated, sometimes by unknown third parties.

The worry is that in the wake of this focus, the relationship between you and your patient will be weakened, without offsetting benefits. Consider three examples:

Drug substitution In most states, pharmacy laws, regulations or professional custom stipulate that your non-generic prescriptions be filled with the precise products you prescribe. But in the last five years, a dozen or more State laws have been changed, permitting the pharmacist in most cases to select a product of the same generic drug to fill any prescription.

Ironically, this dilution of physician control has taken place against a background of growing evidence that purportedly equivalent drug products may be inequivalent, since neither present drug standards nor their enforcement are optimal. In fact, the FDA itself says it has not enforced the same standards for hundreds of "follow-on" products that it had applied to the original NDA approvals. Thus physician control over patient therapy is being eroded with a risk that patients may be exposed to drugs of uncertain quality.

The major advertised claim for substitution is reduced prescription prices for consumers. Yet no documentation of any significant savings has been produced.

MAC Maximum Allowable Cost, MAC for short, is a Federal regulation designed to cut the Government's drug bill by setting price ceilings for drugs dispensed to Medicare and Medicaid patients. Unless the prescriber certifies on the prescription that a particular product is medically necessary, the Government intends to pay only for the cost of the lowest-priced, purportedly-equivalent, generally-available product. The effect of the program may be that elderly and indigent patients will be restricted to products which someone in Washington believes are priced right. Practicing doctors will have little to say about administration of the program, since Government will have absolute authority to make its choices stick.

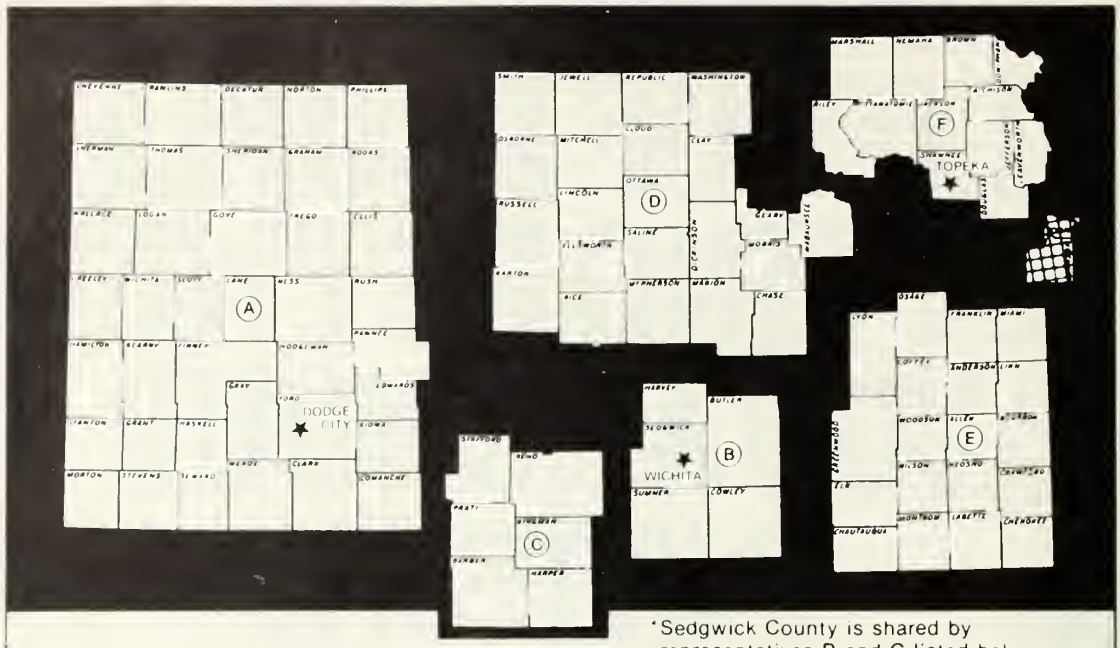
The drug lag The future of drug and device research depends upon a scientific and regulatory environment that encourages therapeutic innovations. The American pharmaceutical industry annually is spending more than $1 billion of its own funds and evaluating more than 1,200 investigational compounds in clinical research. Disease targets include cancer, atherosclerosis, viruses and central nervous system disorders, among others. But there is a major barrier to the flow of new drugs to your patients: The cost of the research is more than ten times what it was, per product, in 1962; and whereas governmental clearance of new drug applications took six months then, it commonly consumes two years now.

The FDA needs adequate time, of course, to consider data. But it is equally clear that the present approval process contributes to needless delay of needed therapy. That's why the increased efficiency of the drug approval process is vital to all our futures.

If these issues concern you, we suggest that you make your voice heard—among your colleagues and your representatives in State legislatures and in Washington.

It could make a difference in your practice tomorrow.

Pharmaceutical Manufacturers Association
1155 Fifteenth Street, N.W., Washington, D.C. 20005



*Sedgwick County is shared by representatives B and C listed below.

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1-913-232-1000

When you need special help from Blue Shield, just give your Professional Relations Representative a call. There's one for your area. He or she will be glad to visit with you personally, in your office. Consult the map above and the list at left for the name of your Professional Relations Representative.

And remember, too, you can use our HOT LINE number (1-800-432-3587) to leave a message for your representative.

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DINNER MUSICAL THEATRE
Wichita Country Club
Sunday, May 1, 1977

An exciting opportunity to preview the Summer Music Theatre of Wichita will be part of the KMS Annual Convention on May 1. The Encore Group will present a musical variety theater Sunday evening, after dinner, at the Wichita Country Club. Don't miss this exceptional opportunity to again visit with your friends from all over Kansas, have a delicious dinner, and enjoy a beautiful and entertaining theater production. Reservations are limited, but an early registration with a check of $12 per person will assure your reservation.

Woman's Auxiliary to the Kansas Medical Society

May 1-4, 1977, Wichita

Sunday, May 1

12:30-5:00 Registration—Reservations
Sub-Lobby

12:30-5:00 Hospitality and AMERF Store
Wichita Room

1:30 Pre-Convention Board of Directors Meeting
Plaza Room
Mrs. Clair J. Cavanaugh, President Woman's Auxiliary to KMS Presiding

7:00 Dinner-Music Theatre
Wichita Country Club

Monday, May 2

7:30 "Early Bird" Breakfast
Medical Society and Auxiliary
South Ballroom
Rex Kenyon, M.D., Oklahoma City Chairman, AMPAC

8:30-12:00 Registration—Reservations
Sub-Lobby

8:30-4:00 Hospitality
Wichita Room

9:00 General Session
Plaza Room

11:45 Mi Casa Es Su Casa—Tour of Homes and Progressive Luncheon

Tuesday, May 3

7:30 Past State Presidents Breakfast
Cork Room

8:30-12:00 Registration—Reservations
Sub-Lobby

8:30-4:00 Hospitality
Wichita Room

9:00 General Session
Plaza Room

1:00 Punch Bowl and Luncheon—Honoring Emerson Yoder, M.D., President Kansas Medical Society and KMS Advisory Committee to the Woman's Auxiliary
Petroleum Club
(Fourth Financial Center)

5:30 K.U. Medical Alumni Reception
South and Center Ballrooms
Broadview Hotel

7:00 President's Banquet—Kansas Medical Society
South and Center Ballrooms
Broadview Hotel

Wednesday, May 4

9:00-10:00 Registration
Sub-Lobby

9:00 Hospitality
Wichita Room

9:15 Continental Breakfast
Gold Room

9:30 Post-Convention Board of Directors Meeting
Gold Room
Mrs. Dean Burnett Presiding

THREE-IN-ONE THERAPY AGAINST TOPICAL INFECTION

Neosporin® Ointment

(Polymyxin B-Bacitracin-Neomycin)

This potent broad-spectrum antibacterial provides overlapping action to help combat infection caused by common susceptible pathogens (including staph and strep). The petrolatum base is gently occlusive, protective and enhances spreading.

Neomycin

Staphylococcus
Haemophilus
Klebsiella
Aerobacter
Escherichia
Proteus
Corynebacterium
Streptococcus
Pneumococcus

Bacitracin

Staphylococcus
Corynebacterium
Streptococcus
Pneumococcus

Polymyxin B

Pseudomonas
Haemophilus
Klebsiella
Aerobacter
Escherichia

In vitro overlapping antibacterial action of Neosporin® Ointment (polymyxin B-bacitracin-neomycin).

Wellcome

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Neosporin® Ointment

(Polymyxin B-Bacitracin-Neomycin)

Each gram contains: Aerosporin® brand Polymyxin B Sulfate 5,000 units; zinc bacitracin 400 units; neomycin sulfate 5 mg (equivalent to 3.5 mg neomycin base); special white petrolatum qs; in tubes of 1 oz and 1/2 oz and 1/32 oz (approx.) foil packets.

WARNING: Because of the potential hazard of nephrotoxicity and ototoxicity due to neomycin, care should be exercised when using this product in treating extensive burns, trophic ulceration and other extensive conditions where absorption of neomycin is possible. In burns where more than 20 percent of the body surface is affected, especially if the patient has impaired renal function or is receiving other aminoglycoside antibiotics concurrently, not more than one application a day is recommended.

When using neomycin-containing products to control secondary infection in the chronic dermatoses, it should be borne in mind that the skin is more liable to become sensitized to many substances, including neomycin. The manifestation of sensitization to neomycin is usually a low grade reddening with swelling, dry scaling and itching; it may be manifest simply as failure to heal. During long-term use of neomycin-containing products, periodic examination for such signs is advisable and the patient should be told to discontinue the product if they are observed. These symptoms regress quickly on withdrawing the medication. Neomycin-containing applications should be avoided for that patient thereafter.

PRECAUTIONS: As with other antibacterial preparations, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

ADVERSE REACTIONS: Neomycin is a not uncommon cutaneous sensitizer. Articles in the current literature indicate an increase in the prevalence of persons allergic to neomycin. Ototoxicity and nephrotoxicity have been reported (see Warning section).

Complete literature available on request from Professional Services Dept. PML.

We've come a long way, baby

Forty years ago, many childhood handicaps went undetected. And many babies, like this one, would have grown up to be "problem children" in school, their undiagnosed handicap preventing them from keeping pace with their classmates or perhaps denying them an education altogether.

But today, most difficult-to-diagnose handicaps can be detected early, often at birth. And once handicaps are detected, new ways of teaching handicapped children promise them a better chance than ever for a public education.

Count Your Kid In is a state-sponsored project whose sole purpose is to help parents help their handicapped children. If one of your patients is a handicapped child, from an infant to an 18-year-old, ask his parents to call us toll-free for help and information. You can call us for information on professionals in your area who perform education-related evaluations for handicapped children.

Count your kid in

800-362-2211

Exhibits

The exhibits, located in East Exhibit Hall, Broadview Hotel, will be open Sunday, 8:00 a.m. to 4:00 p.m.; Monday, 8:00 a.m. to 2:00 p.m., and Tuesday, 8:00 a.m. to 5:00 p.m.

Register at the exhibit booths for drawings to be held at the dinner on Monday and Tuesday evenings.

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1 Bristol Laboratories
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3 Encyclopaedia Britannica, Inc.
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4. Phone-A-Gram System, Inc.
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House of Delegates

Broadview Hotel

SUNDAY–MAY 1

7:30 Registration of Delegates

9:00 First Session, West Exhibit Hall

WEDNESDAY–MAY 4

7:30 Registration of Delegates

8:30 Second Session, West Exhibit Hall

Council Meeting and Luncheon at Conclusion of House of Delegates, Cork Room

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Reference Committees

SUNDAY, MAY 1, 2:00 P.M.

Committee A–West Exhibit Hall

MONDAY, MAY 2, 9:00 A.M.

Committee B–West Exhibit Hall

Lasix® Tablets (furosemide) 20 mg and 40 mg in hypertension.

Lasix Tablets have been shown to reduce elevated blood pressure in diuretic-responsive patients.

Lasix. For the treatment of essential benign hypertension.

Please see other side of this advertisement for prescribing information.

Lasix® Tablets (furosemide) 20 mg and 40 mg in hypertension.

A brief summary of the Prescribing Information for
Lasix® (furosemide) Tablets 20 mg and 40 mg

WARNING—Lasix (furosemide) is a potent diuretic which if given in excessive amounts can lead to a profound diuresis with water and electrolyte depletion. Therefore, careful medical supervision is required, and dose and dose schedule have to be adjusted to the individual patient's needs. (See under "Dosage and Administration.")

Indications—Lasix (furosemide) is indicated for the treatment of the edema associated with congestive heart failure, cirrhosis of the liver, and renal disease, including the nephrotic syndrome.

Hypertension—Lasix (furosemide) may be used for the treatment of hypertension alone or in combination with other antihypertensive drugs. Hypertensive patients who cannot be adequately controlled with thiazides will probably also not be adequately controllable with Lasix (furosemide) alone.

CONTRAINDICATIONS—Because animal reproductive studies have shown that Lasix (furosemide) may cause fetal abnormalities, the drug is contraindicated in women of childbearing potential. (See "Additional Information.")

Lasix (furosemide) is contraindicated in anuria. If increasing azotemia and oliguria occur during treatment of severe progressive renal disease, the drug should be discontinued. In hepatic coma and in states of electrolyte depletion, therapy should not be instituted until the basic condition is improved or corrected. Lasix (furosemide) is contraindicated in patients with a history of hypersensitivity to this compound.

Warnings—Excessive diuresis may result in dehydration and reduction in blood volume, with circulatory collapse and with the possibility of vascular thrombosis and embolism, particularly in elderly patients. Excessive loss of potassium in patients receiving digitalis glycosides may precipitate digitalis toxicity. Care should also be exercised in patients receiving potassium depleting steroids.

Frequent serum electrolyte, CO_2 and BUN determinations should be performed during the first few months of therapy and periodically thereafter, and abnormalities corrected or the drug temporarily withdrawn.

In patients with hepatic cirrhosis and ascites, initiation of therapy with Lasix (furosemide) is best carried out in the hospital. Sudden alterations of fluid and electrolyte balance in patients with cirrhosis may precipitate hepatic coma; therefore, strict observation is necessary during the period of diuresis. Supplemental potassium chloride and, if required, an aldosterone antagonist are helpful in preventing hypokalemia and metabolic alkalosis.

Patients should be observed regularly for the possible occurrence of blood dyscrasias, liver damage, or other idiosyncratic reactions.

In those instances where potassium supplementation is required, an oral liquid preparation should be used rather than enteric-coated potassium salts.

There have been several reports, published and unpublished, concerning nonspecific small-bowel lesions consisting of stenosis, with or without ulceration, associated with the administration of enteric-coated thiazides with potassium salts. These lesions may occur with enteric-coated potassium tablets alone or when they are used with nonenteric-coated thiazides, or certain other oral diuretics.

These small-bowel lesions have caused obstruction, hemorrhage, and perforation. Surgery was frequently required, and deaths have occurred.

Available information tends to implicate enteric-coated potassium salts, although lesions of this type also occur spontaneously. Therefore, coated potassium-containing formulations should be administered only when indicated and should be discontinued immediately if abdominal pain, distention, nausea, vomiting, or gastrointestinal bleeding occurs.

Patients with known sulfonamide sensitivity may show allergic reactions to Lasix (furosemide).

Precautions—As with any potent diuretic, electrolyte depletion may occur during therapy with Lasix (furosemide), especially in patients receiving higher doses and a restricted salt intake. Electrolyte depletion may manifest itself by weakness, dizziness, lethargy, leg cramps, anorexia, vomiting, and/or mental confusion.

Asymptomatic hyperuricemia can occur and gout may rarely be precipitated. Reversible elevations of BUN may be seen. These have been observed in association with dehydration, which should be avoided, particularly in patients with renal insufficiency.

When parenteral use of Lasix (furosemide) precedes its oral use, it should be kept in mind that cases of tinnitus and reversible hearing impairment have been reported. There have also been some reports of cases in which irreversible hearing impairment occurred. Usually, ototoxicity has been reported when Lasix (furosemide) was injected rapidly in patients with severe impairment of renal function at doses exceeding several times the usual recommended dose and in whom other drugs known to be ototoxic were often given. If the physician elects to use high dose parenteral therapy in patients with severely impaired renal function, controlled intravenous infusion is advisable (for adults, it has been reported that an infusion rate not exceeding 4 mg Lasix [furosemide] per minute has been used).

Increases in blood glucose, and alterations in glucose tolerance tests with abnormalities of the fasting and two-hour postprandial sugar have been observed, and rare cases of precipitation of diabetes mellitus have been reported.

Lasix (furosemide) may lower serum calcium levels, and rare cases of tetany have been reported.

Patients receiving high doses of salicylates, in conjunction with Lasix (furosemide) may experience salicylate toxicity at lower doses because of competitive renal excretory sites.

Diuretics such as furosemide may enhance the nephrotoxicity of cephaloridine. Therefore, Lasix (furosemide) and cephaloridine should not be administered simultaneously.

Sulfonamide diuretics have been reported to decrease arterial responsiveness to pressor amines and to enhance the effect of tubocurarine. Great caution should be exercised in administering curare or its derivatives to patients undergoing therapy with Lasix (furosemide), and it is advisable to discontinue Lasix (furosemide) for one week prior to any elective surgery.

Adverse Reactions—Various forms of dermatitis, including urticaria and rare forms of exfoliative dermatitis, erythema multiforme, pruritus, paresthesia, blurring of vision, postural hypotension, nausea, vomiting, or diarrhea.

Anemia, leukopenia, aplastic anemia, and thrombocytopenia (with purpura). Rare cases of agranulocytosis which responded to treatment.

In addition, the following rare adverse reactions have been reported; however, relationship to the drug has not been established with certainty: sweet taste, oral and gastric burning, paradoxical swelling, headache, jaundice, thrombophlebitis and emboli and acute pancreatitis.

Lasix (furosemide)-induced diuresis may be accompanied by weakness, fatigue, lightheadedness or dizziness, muscle cramps, thirst, increased perspiration, urinary bladder spasm, and symptoms of urinary frequency.

Dosage and Administration

ADULTS

The usual adult dose of Lasix (furosemide) is 20 to 80 mg given as a single dose.

If the diuretic response with a single dose of 20 to 80 mg is not satisfactory, the following schedule should be used: Increase this dose by increments of 20 or 40 mg not sooner than 6 to 8 hours after the previous dose until the desired diuretic effect has been obtained. This individually determined single dose should then be given once or twice daily. The dose of Lasix (furosemide) may be carefully titrated up to 600 mg per day in those patients with severe clinical edematous states.

With doses exceeding 80 mg/day and given for prolonged periods, careful clinical and laboratory observations are particularly advisable.

Hypertension—The usual dose of Lasix (furosemide) is 40 mg twice daily both for initiation of therapy and for maintenance. Careful observations for changes in blood pressure must be made when this compound is used with other antihypertensive drugs, especially during initial therapy. The dosage of other agents must be reduced by at least 50 percent as soon as Lasix (furosemide) is added to the regimen to prevent excessive drop in blood pressure. As the blood pressure falls under the potentiating effect of Lasix (furosemide), a further reduction in dosage, or even discontinuation, of other antihypertensive drugs may be necessary. It is further recommended, if 40 mg twice daily does not lead to a clinically satisfactory response, to add other hypotensive agents, e.g., reserpine, rather than to increase the dose of Lasix (furosemide).

INFANTS AND CHILDREN

Pediatric Administration: The usual initial dose of oral Lasix in infants and children is 2 mg/kg body weight, given as a single dose. If the diuretic response is not satisfactory after the initial dose, dosage may be increased by 1 or 2 mg/kg not sooner than 6 to 8 hours after the previous dose. Doses greater than 6 mg/kg body weight are not recommended.

For maintenance therapy in infants and children, the dose should be adjusted to the minimum effective level.

How Supplied—Lasix Tablets 40 mg (furosemide) supplied as white, round, monogrammed, scored tablets.

Lasix Tablets 20 mg (furosemide) supplied as white, oval, monogrammed tablets.

Note: Dispense in dark containers. Exposure to light may cause slight discoloration which, however, does not alter potency.

Additional Information

Toxicology

The acute toxicity of Lasix (furosemide) has been determined in mice, rats, and dogs. In all three animal species, the oral LD_{50} of Lasix (furosemide) exceeded 1000 mg/kg of body weight, while the intravenous LD_{50} ranged from 300 to 680 mg/kg. Intragastric injection of the drug in newborn rats resulted in an LD_{50} of 380 mg/kg.

The acute toxicity of high doses of Lasix (furosemide) was characterized by convulsions, paralysis, and collapse. Surviving animals often became dehydrated and depleted of electrolytes due to the diuresis induced by Lasix (furosemide). In the newborn rats, intragastric injection of the drug caused hyperactivity and anorexia.

Chronic toxicity studies with Lasix (furosemide) were done in rats and dogs. In a one-year study in rats, renal tubular degeneration occurred, with all doses higher than 50 mg/kg (4 times the maximal recommended human dose of 600 mg per day). A six-month study in dogs revealed calcification and scarring of the renal parenchyma at all doses above 10 mg/kg (83 percent of the maximal recommended human dose of 600 mg per day).

Reproductive Studies

The effects of Lasix (furosemide) on embryonic and fetal development and on pregnant dams were studied in mice, rats, and rabbits.

Lasix (furosemide) caused unexplained maternal deaths and abortions in the rabbit when 50 mg/kg (4 times the maximal recommended human dose of 600 mg per day) was administered between days 12 to 17 of gestation. In a previous study the lowest dose of only 25 mg/kg (2 times the maximal recommended human dose of 600 mg per day) caused maternal deaths and abortions. In a third study, none of the pregnant rabbits survived a dose of 100 mg/kg. Data from the above studies indicate fetal lethality which can precede maternal deaths.

The results of the mouse study and one of the three rabbit studies also showed an increased incidence of hydronephrosis (distention of the renal pelvis and, in some cases, of the ureters) in fetuses derived from treated dams as compared to the incidence in fetuses from the control group.

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Hearing losses are among the most consistently neglected health problems. Many people with them won't even admit it to themselves, let alone others. A little encouragement may start them thinking about themselves more realistically.

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Write to us for your free poster and booklets. They just might help you to help some patients who aren't hearing as well as they used to. Even those who ordinarily wouldn't hear of it.

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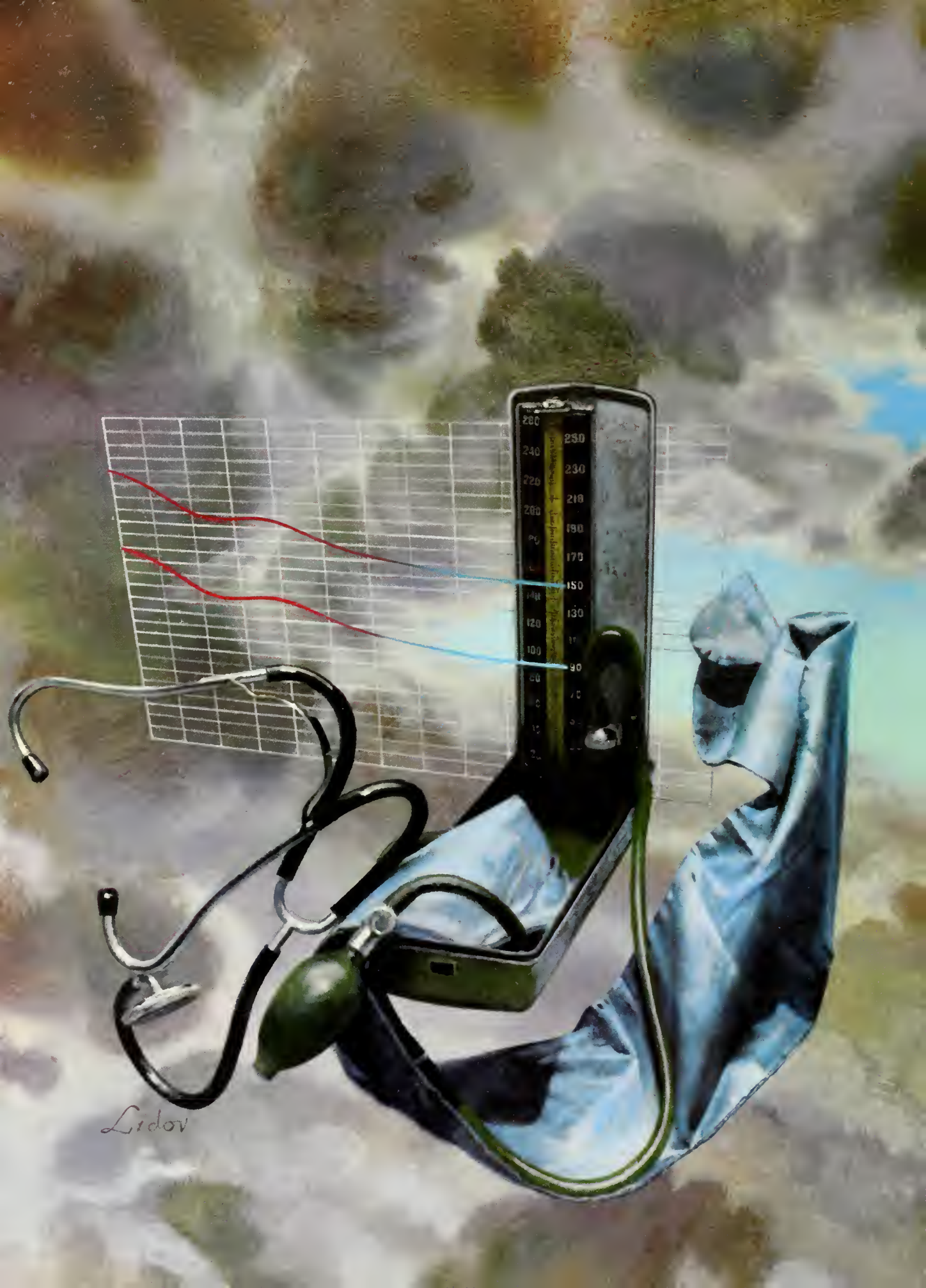
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When choosing a diuretic for day-in-day-out hypertension control with comfortable compliance...

The agent you choose in mild to moderate essential hypertension should offer (1) long-term effectiveness, (2) patient comfort and compliance.

Zaroxolyn offers both.

In one long-term study[1] Zaroxolyn brought moderately elevated (average 161/109 mm Hg) blood pressure down to the range of normotension—and held it there for a year or more.

The investigator noted, "Patient cooperation was surprisingly good for a study of such duration [2½ years]. The once-daily dosage schedule with metolazone [Zaroxolyn] no doubt contributed to patient compliance."

Overall compliance with Zaroxolyn is good—very good. An analysis of controlled clinical studies involving 188 Zaroxolyn patients showed that only eight discontinued therapy because of side effects. That's a discontinuation rate of only 4.3%, and broader clinical experience appears to substantiate this low rate.[2]

Zaroxolyn. For long-term control and comfortable compliance in mild to moderate hypertension.

Recommended initial dosage in mild to moderate essential hypertension–2½ to 5 mg once daily

Zaroxolyn®

(metolazone, Pennwalt)

2½-mg, 5-mg and 10-mg tablets

once-daily antihypertensive diuretic

Before prescribing, see complete prescribing information in the package insert, or in PDR, or available from your Pennwalt representative. The following is a brief summary. **Indications:** Zaroxolyn (metolazone) is an antihypertensive diuretic indicated for the management of mild to moderate essential hypertension as sole therapeutic agent and in the more severe forms of hypertension in conjunction with other antihypertensive agents. Also, edema associated with heart failure and renal disease. **Contraindications:** Anuria, hepatic coma or precoma; allergy or sensitivity to Zaroxolyn. Or, as a routine in otherwise healthy pregnant women. **Warnings:** In theory cross-allergy may occur in patients allergic to sulfonamide-derived drugs, thiazides or quinethazone. Hypokalemia may occur, and is a particular hazard in digitalized patients; dangerous or fatal arrhythmias may occur. Azotemia and hyperuricemia may be noted or precipitated. Considerable potentiation may occur when given concurrently with furosemide. When used concurrently with other antihypertensives, the dosage of the other agents should be reduced. Use with potassium-sparing diuretics may cause potassium retention and hyperkalemia. Administration to women of childbearing age requires that potential benefits be weighed against possible hazards to the fetus. Zaroxolyn appears in the breast milk. Not for pediatric use. **Precautions:** Perform periodic examination of serum electrolytes, BUN, uric acid, and glucose. Observe patients for signs of fluid or electrolyte imbalance. These determinations are particularly important when there is excessive vomiting or diarrhea, or when parenteral fluids are administered. Patients treated with diuretics or corticosteroids are susceptible to potassium depletion. Caution should be observed when administering to patients with gout or hyperuricemia or those with severely impaired renal function. Hyperglycemia and glycosuria may occur in latent diabetes. Chloride deficit and hypochloremic alkalosis may occur. Orthostatic hypotension may occur. Dilutional hyponatremia may occur in edematous patients in hot weather. **Adverse Reactions:** Constipation, nausea, vomiting, anorexia, diarrhea, bloating, epigastric distress, intrahepatic cholestatic jaundice, hepatitis, syncope, dizziness, drowsiness, vertigo, headache, orthostatic hypotension, excessive volume depletion, hemoconcentration, venous thrombosis, palpitation, chest pain, leukopenia, urticaria, other skin rashes, dryness of mouth, hypokalemia, hyponatremia, hypochloremia, hypochloremic alkalosis, hyperuricemia, hyperglycemia, glycosuria, raised BUN or creatinine, fatigue, muscle cramps or spasm, weakness, restlessness, chills, and acute gouty attacks. **Usual Initial Once-Daily Dosages:** mild to moderate essential hypertension—2½ to 5 mg; edema of cardiac failure—5 to 10 mg; edema of renal disease—5 to 20 mg. Dosage adjustment may be necessary during the course of therapy. **How Supplied:** Tablets, 2½, 5 and 10 mg.

References:

1. Dornfeld L, Kane R: Metolazone in essential hypertension. The long-term clinical efficacy of a new diuretic. *Curr Ther Res* **18**: 527-533, 1975.
2. Data on file, Medical Department, Pennwalt Prescription Products.

PENNWALT

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"Every doctor of medicine licensed to practice medicine or surgery within this state shall...apply to the state medical board for a certificate of triennial registration....The applicant shall include satisfactory evidence to the board that in the preceding three years the practitioner had completed 150 hours of continuing medical education..."

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For asthma management...

Tedral® / Tedral® SA / Tedral® Elixir

Each tablet contains 130 mg theophylline, 24 mg ephedrine hydrochloride, and 8 mg phenobarbital.

Each tablet contains 180 mg anhydrous theophylline (90 mg in the immediate release layer and 90 mg in the sustained release layer); 48 mg ephedrine hydrochloride (16 mg in the immediate release layer and 32 mg in the sustained release layer); and 25 mg phenobarbital in the immediate release layer.

SUSTAINED ACTION

Each 5 ml teaspoonful contains 32.5 mg theophylline, 6 mg ephedrine HCl, and 2 mg phenobarbital; the alcohol content is 15%.

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Morris Plains, New Jersey 07950

T-GP-74-B/W

TEDRAL®

TEDRAL® SA Sustained Action

TEDRAL® Elixir

CAUTION: Federal law prohibits dispensing Tedral SA without prescription.

Description. Tedral: each tablet contains 130 mg theophylline, 24 mg ephedrine hydrochloride, and 8 mg phenobarbital.

Tedral SA: each tablet contains 180 mg anhydrous theophylline (90 mg in the immediate release layer and 90 mg in the sustained release layer); 48 mg ephedrine hydrochloride (16 mg in the immediate release layer and 32 mg in the sustained release layer); 25 mg phenobarbital in the immediate release layer.

Tedral Elixir: each 5 ml teaspoonful contains 32.5 mg theophylline, 6 mg ephedrine hydrochloride, and 2 mg phenobarbital; the alcohol content is 15%.

Indications. Tedral, Tedral SA, and Tedral Elixir are indicated for the symptomatic relief of bronchial asthma, asthmatic bronchitis, and other bronchospastic disorders. They may also be used prophylactically to abort or minimize asthmatic attacks and are of value in managing occasional, seasonal or perennial asthma.

Tedral SA (Sustained Action) offers the convenience of b.i.d. dosage.

Tedral Elixir is convenient for persons who may have difficulty in swallowing tablets.

These Tedral formulations are adjuncts in the total management of the asthmatic patient. Acute or severe asthmatic attacks may necessitate supplemental therapy with other drugs by inhalation or other parenteral routes.

Contraindications. Sensitivity to any of the ingredients; porphyria.

Warnings. Drowsiness may occur. PHENOBARBITAL MAY BE HABIT-FORMING.

Precautions. Use with caution in the presence of cardiovascular disease, severe hypertension, hyperthyroidism, prostatic hypertrophy, or glaucoma.

Adverse Reactions. Mild epigastric distress, palpitation, tremulousness, insomnia, difficulty of micturition, and CNS stimulation have been reported.

Average Dosage. *Prophylactic or Therapeutic.*

Tedral: *Adults*—One or two tablets every 4 hours. *Children*—(Over 60 lb) one-half the adult dose.

Tedral SA: *Adults*—One tablet on arising and one tablet 12 hours later. Tablets should not be chewed. *Children*—Not established for children under 12.

Tedral Elixir: Note: One teaspoonful is equivalent to *one-quarter* Tedral tablet. *Children*—One teaspoonful per 30 lb body weight, every 4-6 hours, unless prescribed otherwise by physician. Should be given to children under 2 years of age only with extreme caution. *Adults*—One to two tablespoonfuls every four hours.

Supplied. Tedral: White, uncoated scored tablets in bottles of 24 (N 0047-0230-24), 100 (N 0047-0230-51) and 1000 (N 0047-0230-60). Also in Unit Dose—package of 10 x 10 strips (N 0047-0230-11).

Tedral SA: Double-layered, uncoated, coral/mottled white tablets in bottles of 100 (N 0047-0231-51) and 1000 (N 0047-0231-60). Also in Unit Dose—package of 10 x 10 strips (N 0047-0231-11).

Tedral Elixir: Dark red and cherry-flavored in 474 ml (16 fl oz) bottles (N 0047-0242-16).

STORE BETWEEN 59° and 86°F (15° and 30°C).

Full information is available on request.

Information for Authors

Manuscript Preparation

Manuscripts must be typewritten, double spaced, leaving wide margins. Submit the original, plus one copy if possible.

Titles should be short, specific, and amenable to indexing. A subtitle is frequently used to keep the main title short.

Summary: All manuscripts should include a short abstract which is a factual (not descriptive) summary of the work.

Author Responsibility: The author is responsible for all statements made in his work, including changes made by the copy editor. Manuscripts are received with the explicit understanding that they are not simultaneously under consideration by any other publication. Publication elsewhere will be subsequently authorized at the discretion of the Editor.

Galley Proof: To make extensive changes in the article after the text has been set in type may require an additional cost which exceeds the original. The galley proof is for correction of ERRORS, and a rewriting of the article should be done on the original copy BEFORE it is submitted for publication.

Drugs should be called by their generic names; the trade names can be added in parentheses if they are considered important. All *units of measure* must be given in the metric system.

References

Bibliographic references should not exceed 20 in number, documenting key publications. Personal communications and unpublished data should not be included. References should be arranged according to the order of citation, and not alphabetically. All references must be numbered consecutively and all must be cited in the text. Use the style of the AMA publications, giving: name of author, title of article, name of periodical, volume, pages, year.

Illustrations

All material which cannot be set in type, such as photographs, line drawings, graphs, charts, tracings (for preparation of tables, see below) must be mounted on white cardboard. All must be identified on the back as to figure number, author's name, and an arrow indicating top. Legends should be typed double spaced on a separate sheet of paper, limited to a maximum of 30 words.

Drawings and Graphs should be done professionally in India ink on illustration board or high grade white drawing paper.

Photographic material should be submitted in duplicate as high contrast, glossy prints. Color illustrations will be accepted for publication only if the author assumes the cost.

THE JOURNAL will assume the cost of B/W engravings and cuts up to $35 (or 5 cuts). Engraving cost for illustrations in excess of $35 will be billed to the author.

Tables

Because tables are set by hand, their cost is comparable to illustrations. A reasonable number of tables are allowed without cost to the author.

Tables should be self-explanatory and should supplement, not duplicate, the text. Since the purpose of a table is to compare or classify related items, the data must be logically and clearly organized. The relationship and comparison are established by the correct choice of column heads (captions of vertical columns) and stubs (left entries in horizontal listings).

Each table should be typed double spaced, including all headings, on separate sheets of lettersize paper. Oversize paper should not be used. Instead, repeat heads and stubs on a second sheet for tables requiring extra width. Number tables consecutively. Each table must have a title.

Reprints

A reprint order form with a table covering cost will be sent with the galley proof to each contributor. Since the JOURNAL has no way to provide for reprints, they must be ordered by the author and purchased directly from the printer.

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Welcome to Wichita

The physicians of Sedgwick County are honored and pleased to host the Kansas Medical Society Annual Meeting in Wichita, May 1-4, 1977.

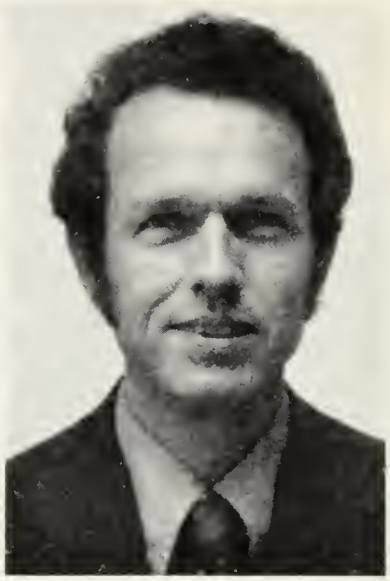
We cordially welcome members, delegates, spouses, and their families to Wichita!

Charles R. Jackson, M.D., President

Medical Society of Sedgwick County

Distinguished Speakers

CHARLES E. HENNING, M.D.



Dr. Henning, a native Kansan, was graduated from the University of Kansas School of Medicine in 1963. He served his residency at the University of Oklahoma, Department of Orthopedic Surgery, and interned at Wesley Medical Center, Wichita. He is in private practice of Orthopedic Surgery in Wichita.

Dr. Henning holds the appointment to the teaching panels at the V.A. Hospital, St. Francis Hospital, Wesley Medical Center, and St. Joseph Hospital, Wichita. His research paper, "An Implantable Pacemaker With Automatic Rate Regulation" appeared in THE JOURNAL OF THE KANSAS MEDICAL SOCIETY in the November 1964 issue.

His special interests lie in the field of clinical orthopedics, and the topic of Dr. Henning's presentation is, "Cast Brace Treatment of Acute Unstable Lateral Ankle Sprain."

DANIEL K. ROBERTS, M.D., Ph.D.

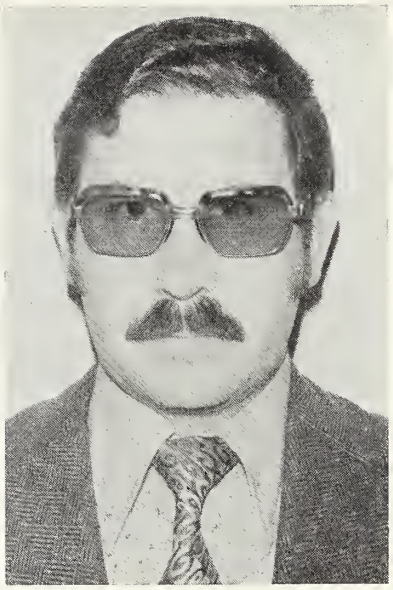
A native of Nebraska, Dr. Roberts was graduated from the Nebraska University School of Medicine in 1961. He completed residencies in Anatomic Pathology and in Obstetrics and Gynecology, at the University of Texas Medical Branch at Galveston.

Dr. Roberts has done research in cancer of the female genital tract with electron microscopy since 1961, with numerous publications in this area. He is Board certified in both Anatomic Pathology and Obstetrics and Gynecology.

Currently, Dr. Roberts is Chairman of the Department of Obstetrics/Gynecology at the Wichita State University Branch of KUMC; Chief of the Ob-Gyn Section and Director of Ob-Gyn Education at Wesley Medical Center; and Director of the Institute for the Study of Female Diseases.

In his presentation, Dr. Roberts will discuss the "Management of Abnormal Pap Smears."

SERGIO A. BUSTAMANTE, M.D.



Born in Zamora, Mexico, Dr. Bustamante was graduated from the National University of Mexico in 1966. He served his residency in Hospital Infantil de Coyoacan, Mexico City, and the I. W. K. Hospital for Children, Halifax. He completed his internship in Santelena Hospital, Mexico City.

The staff appointments for Dr. Bustamante include the Department of Pediatrics/Neonatology, Hospital de Gineco-Obstetricia No. 1, Mexico City; and Director of Special Newborn Care, Wesley Medical Center, Wichita. He also serves as Assistant Professor of Pediatrics, Wichita State University Branch of KUMC. He holds a fellowship in Perinatology, Dalhousie University School of Medicine, Halifax.

Dr. Bustamante will discuss "Born-In vs. Neonatal Transport: A Modern Dilemma of Regional Perinatal Care."

MAURICE M. TINTEROW, M.D.

Dr. Tinterow was born in Texas, and was graduated from the University of Texas Medical Branch at Galveston, in 1941. He completed his internship at Mt. Sinai Hospital, Cleveland. Dr. Tinterow is in private practice of Anesthesiology in Wichita.

He holds the following appointments: Director of Anesthetic Services and Medical Director, Respiratory Therapy, Wesley Medical Center; Chairman of the Advisory Committee, Department of Respiratory Therapy, Wichita State University Branch of KUMC. He is a Diplomate on the National Board of Acupuncture Medicine. The author of numerous articles, Dr. Tinterow wrote the book, "Foundations of Hypnosis: From Mesmer to Freud."

"Acupuncture in Chronic Pain" is the topic of Dr. Tinterow's presentation.

THOMAS GORDON DAY, JR., M.D.

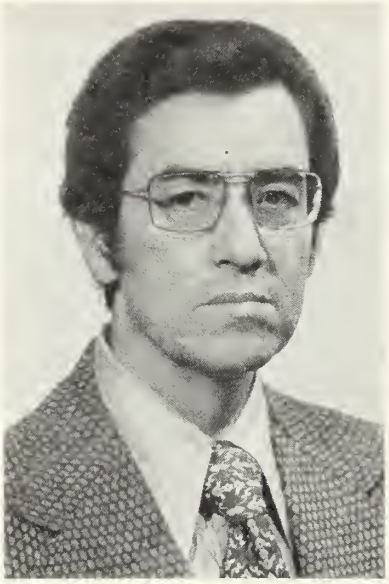
A native of St. James, Missouri, Dr. Day received his MD degree at the Medical College of Virginia in 1967. His internship and residency were served at Charlotte Memorial Hospital, and a fellowship in gynecology was completed at the M. D. Anderson Hospital and Tumor Institute, University of Texas System Cancer Center, where he is presently the Assistant Gynecologist and Assistant Professor.

In his presentation, "Office Gynecology From the Oncologist's Point of View," Dr. Day will stress the following points:

1. What is the primary care physician's responsibility? a) Detection; b) Referral or Treatment; c) Followup.

2. How can the physician best perform this function? a) High index of suspicion; b) Push for a diagnosis prior to treatment; c) Seek help early.

3. What tools are available and how useful are they? a) Diagnosis (history, physical including pelvic examination, Schiller's stain, Pap smear, cervical biopsy, endocervical sampling, endometrial sampling, colposcopy, culdesac aspiration and cytology); b) Treatment (cautery, cryosurgery, hormones).



ALONSO GALVAN, M.D.

Dr. Galvan was born in Juan Albama, Mexico, and received his MD degree from the University of Mexico in 1964. He interned at Bethany Hospital, Kansas City, Kansas, and served his residency in internal medicine at the Maricopa County General Hospital, Phoenix, and at Wesley Medical Center, Wichita. He is currently in private practice of gastroenterology and endoscopy, in Wichita.

Dr. Galvan is the author of a number of scientific papers. His topic is "Endoscopy."

JAMES BENJAMIN RHODES, M.D.

Born in Kansas City, Missouri, Dr. Rhodes was graduated from the University of Kansas School of Medicine in 1958. He completed his internship and residency at the University of Chicago Clinics. Having served as Trainee and later as Research Associate in the Department of Biochemistry, The Chicago Medical School, he has been Assistant Professor and is currently the Associate Professor, Department of Medicine and Department of Physiology, KUMC.

Dr. Rhodes is the author of numerous papers and the recipient of a number of honors and awards. His current research activities are in two categories: basic, in the field of peptides; and clinical, in the field of gastroenterology. The title of his presentation is, "Bran and the Irritable Bowel Syndrome."

ALLAN R. COOKE, M.D., Ph.D.

Dr. Cooke is a native of Lismore, Australia. He was graduated from Sydney University Medical School in 1958. His internship and residency were served at the Royal Prince Alfred Hospital, Sydney, and he completed the fellowship requirements in medical and postdoctoral research (gastroenterology) at the University of Sydney and the University of California, Los Angeles.

Dr. Cooke served as Assistant Professor of Medicine and Physiology in Australia and the United States. His academic appointments include professorships in medicine at the universities of Iowa and Kansas. He is currently Director of the Gastroenterology Division, KUMC.

A prolific writer, Dr. Cooke's research interests lie in controlling mechanisms of gastric disorders. His topic is "Peptic Ulcer Disease."

DANIEL F. WARD, M.D., Ph.D.

Dr. Ward was born in Jefferson City, Missouri. He was graduated from the University of Missouri, Columbia, in 1971, with a Ph.D. degree in Pharmacology. His medical degree was obtained at the University of Missouri-Kansas City School of Medicine in 1974. He is currently serving a residency in Family Practice at the St. Joseph Medical Center, Wichita.

Dr. Ward has done extensive research into the effects of serotonin, specifically the development of biochemical assays for central monoamines; depletion and narcotic administration on the spontaneous locomotor activity in male rats; and effects of migraine and blood serotonin levels in man.

He will discuss the "Effects of Betamethasone of the URI-Group Syndrome in a Randomized Pediatric Population."

UNIVERSITY OF KANSAS COLLEGE OF HEALTH SCIENCES

DIVISION OF CONTINUING EDUCATION

Symposia:

May 9 and 10, 1977

NEW CONCEPTS IN THE DIAGNOSIS AND TREATMENT OF MYOCARDIAL INFARCTION

Guest Faculty:

KANU CHATTERJEE, M.D., University of California and Moffitt Hospital, San Francisco.
EDWARD H. FISCHER, M.D., Trinity Lutheran Hospital, Kansas City, Missouri.
GOTTLIEB C. FRIESINGER, M.D., Vanderbilt University School of Medicine, Nashville, Tennessee.
RICHARD R. MILLER, M.D., University of California, Davis School of Medicine.
CHARLES E. RACKLEY, M.D., University of Alabama Medical Center, Birmingham.
DEMETRIO SODI-PALLARES, M.D., National Institute of Cardiology, Mexico City, Mexico.

Subjects to be discussed will include: FACTORS CONTROLLING CORONARY BLOOD FLOW; PROTECTION OF ISCHEMIC MYOCARDIUM; CARDIOGENIC SHOCK: WHAT'S NEW; ROLE OF ENZYMES IN ASSESSING INFARCT SIZE; INDICATIONS FOR CARDIAC PACEMAKERS AND ANTIARRHYTHMIC DRUGS IN ACUTE MYOCARDIAL INFARCTION.

Accreditation:

American Medical Association: 13.2 hours of Category I.
American Academy of Family Physicians: 13.2 prescribed hours.
Registration Fee: $85.00

May 16, 17 and 18, 1977

SURGERY: PRACTICAL APPROACHES TO COMMON PROBLEMS

Subjects to be discussed will include: REPAIR OF FEMORAL POPLITEAL ARTERY OCCLUSION; CURRENT MANAGEMENT OF HIP FRACTURES; RECENT ADVANCES IN PEDIATRIC SURGERY; INDICATIONS FOR SURGERY AND RECONSTRUCTION OF BENIGN AND PREMALIGNANT DISEASES OF THE BREAST; and a Discussion of Current Controversies in General Surgery.

Accreditation:

American Medical Association: 17.8 hours in Category I.
American Academy of Family Physicians: 17.8 prescribed hours.
Registration Fee: $105.00

For program announcement and information, write: DIVISION OF CONTINUING EDUCATION, University of Kansas College of Health Sciences, Kansas City, Kansas 66103.

REX KENYON, M.D., *Oklahoma City, Oklahoma,* **Chairman, AMPAC Board of Directors.**

A graduate of the University of Oklahoma School of Medicine, Dr. Kenyon is Administrator and Chief Pathologist of the Medical Arts Laboratory in Oklahoma City.

A past president of the Oklahoma State Medical Association, and a past chairman of OMPAC Board of Directors, he became a member of AMPAC Board of Directors in January 1972. In January 1977, he was elected to serve as Chairman of AMPAC Board of Directors for the 1977-79 term. Dr. Kenyon is currently serving his third year on the AMA Council on Legislation.

Dr. Kenyon will be the featured speaker at the "*Early Bird*" Breakfast on Monday, May 2.

MRS. CHESTER L. YOUNG, *Kansas City, Kansas,* **President-Elect, American Medical Association Auxiliary.**

Mrs. Young, who has been active in many levels of Auxiliary work, will be installed as President of the American Medical Association Auxiliary at the 1977 annual convention in San Francisco. Her activities with the national Auxiliary have included serving in various capacities on the Board of Directors and as chairman of many committees. An Auxiliary member for more than 25 years, Mrs. Young served in a number of capacities on the state level, and was elected president in 1961.

A "true Midwesterner," Lela May Carter Young was born in DeKalb County, Missouri, and graduated from Trinity Lutheran Hospital School of Nursing in Kansas City. She was married to the late Chester L. Young, M.D., a surgeon.

Mrs. Young has resumed her nursing career on a part time basis. She is active in civic affairs in many areas of community, political, and church work.

The Woman's Auxiliary to KMS will honor Mrs. Young with its "*MI CASA ES SU CASA*" program on Monday, May 2.

Hosts for the Meeting

Sedgwick County Physicians Arranging 1977 Session

GENERAL CHAIRMAN—Charles B. Jenney, M.D.

PROGRAM COMMITTEE

Douglas V. Horbelt, M.D., Chairman
Thomas J. Luellen, M.D., Co-Chairman
Antonio Huaman, M.D.
Charles A. Isaac, M.D.
Robert D. Porter, M.D.
Richard M. Skibba, M.D.
Harry H. White, M.D.

SPORTS DAY

William L. Padgett, M.D.
Paul M. Murphy, M.D.

Sunday, May 1, 1977

Broadview Hotel

7:00 KANSAS FOUNDATION FOR MEDICAL CARE BOARD OF DIRECTORS MEETING
Board Room

7:30 REGISTRATION—TICKETS—INFORMATION
Registration Area

8:00 EXHIBITS OPEN
East Exhibit Hall

9:00 HOUSE OF DELEGATES—FIRST SESSION
West Exhibit Hall
Clair C. Conard, M.D., Dodge City
Speaker
M. Robert Knapp, M.D., Wichita
Vice Speaker

9:00 ENT SECTION
Luncheon-Meeting
Green and Blue Rooms

11:00 KANSAS ALLERGY SOCIETY
Luncheon-Meeting
Directors Room

11:30 KANSAS SOCIETY OF ANESTHESIOLOGISTS
Luncheon-Meeting
The Den

12:00 KANSAS OBSTETRICAL-GYNECOLOGICAL SOCIETY
Luncheon-Meeting
Board Room

12:30 DELEGATES' LUNCHEON
South Ballroom

2:00 REFERENCE COMMITTEE A
West Exhibit Hall
Robert P. Hudson, M.D., Kansas City, *Chairman*
Carl C. Gunter, M.D., Quinter
Antonio Huaman, M.D., Topeka
Charles R. Jackson, M.D., Wichita
James W. Shaw, Jr., M.D., Hutchinson

4:00 KAMPAC HOSPITALITY SUITE
Cork Room

4:00 EXHIBITS CLOSE
East Exhibit Hall

7:00 DINNER-MUSIC THEATRE
Wichita Country Club

VISIT THE EXHIBITS—REGISTER FOR DRAWING

A COFFEE LOUNGE WILL BE OPEN IN THE EXHIBIT AREA
FOR PORTIONS OF THE CONVENTION

TELEPHONE NUMBER 316-264-0171

Monday, May 2, 1977

Broadview Hotel

MORNING

7:30 Registration—Tickets—Information
Registration Area

7:30 "Early Bird" Breakfast
With the Woman's Auxiliary to KMS
South Ballroom
Rex Kenyon, M.D., Oklahoma City
Chairman, AMPAC

8:00-2:00 Exhibits Open
East Exhibit Hall

9:00 Reference Committee B
West Exhibit Hall
Alex Scott, M.D., Junction City,
Chairman
Paul W. Brown, M.D., Cimarron
Ernest P. Carreau, M.D., Wichita
Firmin E. Snodell, M.D., Shawnee Mission
R. Burnley White, M.D., Winfield

VISIT THE EXHIBITS—REGISTER FOR DRAWING

A COFFEE LOUNGE WILL BE OPEN IN THE EXHIBIT AREA FOR PORTIONS OF THE CONVENTION

SPORTS DAY ACTIVITIES

Kansas Medical Society Golf, Skeet and Trap Association
William L. Padgett, M.D., Wichita, President

10:30 Golfing—Crestview Country Club
(1000 North 127th Street East. Tel: 733-1344)

9:00 Tennis—Crestview Country Club

6:30 Cocktails
Crestview Country Club

7:30 Dinner
Crestview Country Club

TELEPHONE NUMBER **316-264-0171**

Tuesday,

Broadview Hotel

MORNING

7:30 Registration—Tickets—Information
Registration Area

7:30 Past Presidents' Breakfast
Board Room

8:30 Exhibits Open
East Exhibit Hall

FIRST GENERAL SESSION

West Exhibit Hall

Douglas V. Horbelt, M.D., Wichita, Moderator

8:00 Welcome
Charles R. Jackson, M.D., President
Medical Society of Sedgwick County
Response
Emerson Yoder, M.D., President
The Kansas Medical Society

8:30 Regionalization of Perinatal Care in Kansas
Joseph W. Hume, M.D.
Obstetrics-Gynecology
Wichita

9:20 Office Gynecology from the Oncologist's Point of View
Thomas Day, M.D.
Obstetrics-Gynecology
Louisville, Kentucky

10:10 Intermission to View Exhibits

10:30 Management of Abnormal Pap Smears
Daniel K. Roberts, M.D.
Obstetrics-Gynecology
Wichita

11:20 General Discussion

11:45 General Luncheon
South Ballroom
Charles B. Jenney, M.D., Presiding

May 3, 1977

Broadview Hotel

SECOND GENERAL SESSION

Richard M. Skibba, M.D., Wichita, Moderator

1:15 Bran and the Irritable Bowel Syndrome
James Rhodes, M.D.
Gastroenterology
KUMC, Kansas City, Kansas

2:05 Peptic Ulcer Disease
Allen Cooke, M.D.
Internal Medicine
KUMC, Kansas City, Kansas

2:55 Intermission to View Exhibits

3:10 Endoscopy
Alonso Galvan, M.D.
Gastroenterology
Wichita

4:00 General Discussion

4:20 Cast Brace Treatment of Acute Unstable Lateral Ankle Sprain
Charles E. Henning, M.D.
Orthopedic Surgery
Wichita

4:30 Acupuncture in Chronic Pain
Maurice M. Tinterow, M.D.
Anesthesiology
Wichita

4:40 Born-In vs. Neonatal Transport: A Modern Dilemma of Regional Perinatal Care
Sergio A. Bustamante, M.D.
Pediatrics
Wichita Branch—KUMC, Wichita

4:50 Effects of Betamethasone of the URI-Group Syndrome in a Randomized Pediatric Population
Daniel F. Ward, M.D.
Herbert R. Goldberg, M.D.
Pediatrics
Wichita

5:00 Exhibits Close
East Exhibit Hall

As an organization accredited for continuing medical education, the Department of Postgraduate Education, Wichita State University Branch of the University of Kansas School of Medicine certifies that this continuing medical education offering from 8:30 am-4:20 pm meets the criteria for 6 credit hours in Category I of the Physician's Recognition Award of the Amecican Medical Association, provided it is used and completed as designed.

Program is acceptable for 6 prescribed hours by the American Academy of Family Physicians.

TELEPHONE NUMBER **316-264-0171**

Tuesday, May 3, 1977

Broadview Hotel

EVENING

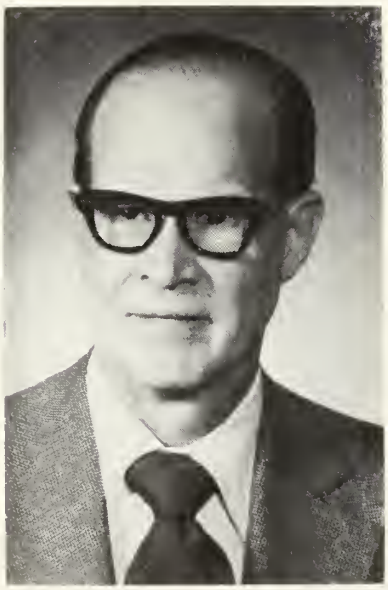
Annual President's Banquet—
The Kansas Medical Society

5:30 Reception for Physicians and Wives
South and Center Ballrooms
Sponsored by
K.U. Medical Alumni Association

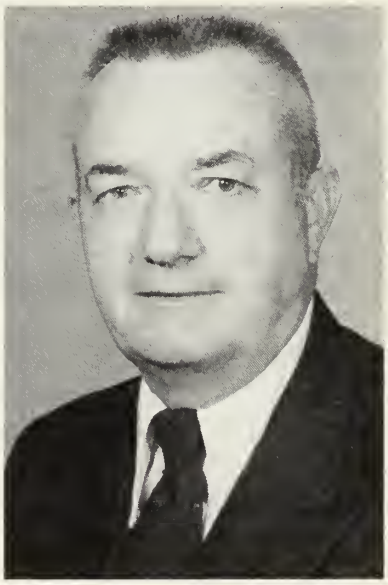
7:00 Dinner
South and Center Ballrooms
Emerson Yoder, M.D.
Presiding

Introduction of Guests
Oath of Office to Incoming President
Maximum Matrimonial Mileage With Minimum Misery
Henry M. Johnson, Ph.D.
Humorist and Philosopher

President and President-Elect



Emerson Yoder, M.D.
Denton



John D. Huff, M.D.
Kansas City, Kansas

KMS ANNUAL MEETING PRESIDENT'S BANQUET MAY 3, 1977

MAXIMUM MATRIMONIAL MILEAGE WITH MINIMUM MISERY

Dr. Henry M. Johnson is well-known from Toronto to San Francisco and from Calgary to Miami Beach as an after dinner speaker of wit and philosophic humor. His speaking career has taken him all over the United States and into Canada. He has also served as a university professor and was a department head at Emory University in Atlanta, Georgia, and a visiting professor at Yale University.

Dr. Johnson's college and university degrees came from Kentucky Wesleyan College, Duke University, and Yale University. His Ph.D. degree was earned at Yale with honors. An outstanding athlete, Dr. Johnson won sixteen athletic letters in college (football, basketball, baseball, and track).

In his talk, "Maximum Matrimonial Mileage With Minimum Misery," he stresses humor, inspiration, and a practical philosophy of life.

Henry M. Johnson, Ph.D.
Banquet Speaker

Dr. and Mrs. Emerson Yoder extend a personal invitation to members of the Society and their guests to attend the President's Banquet on Tuesday evening, May 3, 1977.

Wednesday, May 4, 1977

Broadview Hotel

MORNING

7:30 Registration—Information

8:30 House of Delegates—Second Session
West Exhibit Hall

1:00 Council Luncheon and Meeting
Cork Room

NECROLOGY REPORT

Following is a list of the members of the Kansas Medical Society whose deaths have been reported since the last meeting of the House of Delegates.

Name and Address	*Age*	*Date*
Gregg B. Athay, *Columbus*	68	Jan. 27, 1977
John F. Barr, *Ottawa*	74	Aug. 18, 1976
Julius W. Bell, *Abilene*	61	Sept. 24, 1976
Dan L. Berger, *Shawnee Mission*	58	May 4, 1976
Fred P. Bestgen, *Manhattan*	81	Oct. 4, 1976
Claude D. Bonham, *Topeka*	75	May 9, 1976
William P. Callahan, *Wichita*	87	July 31, 1976
David L. Coe, *Kansas City, KS*	40	Oct. 5, 1976
Elva Elton Edwards, *Emporia*	93	Nov. 8, 1976
Howard R. Elliott, *Pittsburg*	62	Sept. 18, 1976
Darrell Lee Evans, *Manhattan*	73	Oct. 28, 1976
Marshall B. Flowers, *Anthony*	92	Oct. 25, 1976
Wendell A. Grosjean, *Winfield*	70	June 1, 1976
Wilson K. Hobart, *Topeka*	89	Mar. 17, 1977
Harold V. Holter, *Kansas City, KS*	73	June 22, 1976
J. Allen Howell, *Wellington*	70	Nov. 8, 1976
Arnold G. Isaac, *Newton*	82	April 9, 1976
Lester A. Latimer, *Alexander*	91	July 12, 1976
Sherburne MacLeod, *Wichita*	69	July 15, 1976
Ralph R. Melton, *Marion*	70	July 29, 1976
Paul J. O'Connell, *Kansas City, MO*	88	Apr. 30, 1976
Dean Brownfield Parker, *Ness City*	71	May 10, 1976
Arthur L. Pettis, *El Dorado*	89	Apr. 11, 1976
Manuel E. Pusitz, *Topeka*	72	Feb. 5, 1977
Harvey S. Smith, *Concordia*	63	Sept. 16, 1976
Richard E. Speirs, *Dodge City*	65	Dec. 6, 1976
S. V. Vaidynathan, *Winfield*	46	May 9, 1976

NOMINATING COMMITTEE

The Nominating Committee of the Kansas Medical Society met on Sunday, January 16, 1977, and submits to the House of Delegates the following list of nominations for the elective offices of the Society. Wherever more than one nomination appear, these are presented in alphabetical order. A very brief biography accompanies each name.

President-Elect

Warren E. Meyer, M.D., Wichita. Born in 1927. Graduated from Northwestern University School of Medicine in 1951. Practices General Surgery. Is currently serving at First Vice-President.

First Vice-President

Donald D. Goering, M.D., Salina. Born in 1931. Graduated from the University of Kansas School of Medicine in 1956. Is engaged in Family Practice. Is now serving as Second Vice-President.

Second Vice-President

Vernon W. Filley, M.D., Pratt. Born in 1913. Graduated from the Nebraska University School of Medicine in 1943. Practices General Surgery. Is currently serving as Councilor.

Phillip A. Godwin, M.D., Lawrence. Born in 1928. Graduated from the University of Kansas School of Medicine in 1955. In practice of Anesthesiology. Is currently serving as Constitutional Secretary.

Chester M. Lessenden, M.D., Topeka. Born in 1918. Graduated from the University of Kansas School of Medicine in 1943. Practices Dermatology. Is past chairman of Kansas Dermatology Society. Has served as KMS Treasurer.

Constitutional Secretary

Dean T. Collins, M.D., Topeka. Born in 1928. Graduated from the University of Kansas School of Medicine in 1955. Is engaged in the practice of Psychiatry. Is active in KMS committee work.

Jack R. Cooper, M.D., Shawnee Mission. Born in 1917. Graduated from the Ohio State University School of Medicine in 1943. Practices Neurosurgery. Is active in KMS committee work.

Treasurer

Ralph H. Baehr, M.D., Topeka. Born in 1935. Graduated from Northwestern University School of Medicine in 1959. Is engaged in the practice of Radiology. Is active in KMS committee work.

William K. Walker, M.D., Sedan. Born in 1928. Graduated from the University of Kansas School of Medicine in 1945. Is in Family Practice. Is active in KMS committee work.

Speaker

Clair C. Conrad, M.D., Dodge City. Born in 1927. Graduated from the University of Kansas School of Medicine in 1955. Practices Internal Medicine. Is now serving as Speaker of the House of Delegates and AMA Delegate.

V. Dean Schwartz, M.D., Wichita. Born in 1924. Graduated from the University of Kansas School of Medicine in 1948. Is in Family Practice. Serves as Parliamentarian for the House of Delegates.

Vice-Speaker

M. Robert Knapp, M.D., Wichita. Born in 1923. Graduated from New York College of Medicine in 1947. Is engaged in the practice of Anesthesiology. Has served as Councilor. Is currently serving as Vice-Speaker.

John O. Yulich, M.D., Kansas City. Born in 1933. Graduated from the University of Kansas School of Medicine in 1959. Is in Family Practice. Has been active in KMS committee work.

AMA Delegate

Clair C. Conrad, M.D., Dodge City. Born in 1927. Graduated from the University of Kansas School of Medicine in 1955. Practices Internal Medicine. Is now serving as AMA Delegate and Speaker of KMS House of Delegates.

Ivan E. Rhodes, M.D., Wichita. Born in 1925. Graduated from the University of Oklahoma School of Medicine in 1949. Is engaged in the practice of Radiology. Is currently serving as Councilor.

Thomas F. Taylor, M.D., Salina. Born in 1926. Graduated from the University of Kansas School of Medicine in 1953. Is engaged in Family Practice. Has served as Speaker of the House, KMS President, and Chairman of KaMPAC.

AMA Alternate Delegate

Richard Meidinger, M.D., Topeka. Born in 1937. Graduated from the University of Kansas School of Medicine in 1965. Is engaged in the practice of Radiology. Is currently serving as Councilor.

Lew W. Purinton, M.D., Wichita. Born in 1923. Graduated from the University of Kansas School of Medicine in 1948. Is engaged in the practice of Internal Medicine. Is currently serving as AMA Alternate Delegate.

John W. Young, M.D., Shawnee Mission. Born in 1937. Graduated from the University of Tennessee School of Medicine in 1963. Is engaged in the practice of Plastic Surgery. Has been active in committee work.

IMMUNIZATION SCHEDULE

The School Health Committee of the Kansas Medical Society has been requested to list an immunization schedule. Following is the recommended schedule for active immunization of normal infants and children.

RECOMMENDED SCHEDULE FOR ACTIVE IMMUNIZATION OF NORMAL INFANTS AND CHILDREN

2 mo	DTP[1]	TOPV[2]
4 mo	DTP	TOPV
6 mo	DTP	TOPV
1 yr	Measles[3]	Tuberculin Test[4]
1½ yr	Rubella[3]	Mumps[3]
1½ yr	DTP	TOPV
5 yrs	DT	TOPV
14-16 yrs	Td[5] and thereafter every 10 years	

(Continued on page 205)

Councilor Reports

Activities in the Council Districts of Kansas

DISTRICT 1

The annual meeting of Council District 1 was held in Hiawatha this year. Dr. Emerson Yoder, President of the Kansas Mdical Society, addressed the group, and dealt with the many complex and demanding problems facing the medical profession today. It is obvious that he has presented a reasoned and moderating influence on the several groups throughout the state, who have made sincere but misguided suggestions for changes in health care patterns in Kansas. Certainly, every attempt is being made to focus on the needs of the patients of Kansas physicians.

I am certain that every generation requires a high degree of statesmanship in America. Since we cannot work in the past but only the present, one can only state with certainty that today is certainly a time when statesmanship is needed and, in medicine, it is certainly being displayed. One can only hope that any constructive suggestions for changes in Kansas health care will receive a fair and reasonable hearing, while avoiding undesirable changes and "changes for the sake of change."

ROGER D. WARREN, M.D., *Councilor*

DISTRICT 2

In the person of Dr. John D. Huff, Council District 2 will provide the Kansas Medical Society with its President during the next term of that illustrious office. While speaking of presidents, it is perhaps permissible to inject the historical note that Wyandotte County recently elected its first woman President-Elect, Dr. Barbara Lukert, an endocrinologist on the faculty of the University of Kansas College of Health Sciences. Beyond these two social notes, District 2 has little to report. It has been a quiet year, which is itself newsworthy. Membership, which has grown steadily during the past several years, leveled off during 1976. Several members contributed to the remarkable legislative achievements addressed to the malpractice problem.

In an item that requires no comment, Wyandotte County reports that MASHA, the umbrella agency for health related matters in Kansas City, dropped another physician member, bringing to only three the number of practicing M.D.s on a board that will have much to say about medical practices at all levels in the entire metropolitan Kansas City area.

ROBERT P. HUDSON, M.D., *Councilor*

DISTRICT 3

Activities in Council District 3 have been most constructive from the standpoint of the practice of medicine. Grievances between physician and patient and between physicians have been handled in a most satisfactory manner by the Executive Committee of the Johnson County Medical Society.

The activities of the Physician Medical Legal Foundation, Inc. have been most effectively launched by Drs. John W. Young and Milburn W. Hobson, of Johnson County, and Dr. Herman Jones, of Wyandotte County. To date, 320 contributor members have indicated their desire to pursue the concept of countersuit in frivolous malpractice actions. This is yet an untried approach to the malpractice problem, but in view of experience in other states, particularly that of Illinois, it would seem to have great promise. The Foundation is accepting new members in June. Membership contribution is 25 Federal Reserve Notes.

The Johnson County Medical Society has concerned itself with efforts on the part of certain municipal governments to require payment of Occupational License fees in defiance of K.S.A. 19-2226 of the Kansas Legislature.

District 3 is grateful to Drs. Jack R. Cooper, Michael E. Aronoff, and John W. Young for their activities on the legislative committee and the endeavors of KaMPAC.

The Society has concerned itself with the selection of a local public health department director, and we have expressed to the county commissioners our unanimous opinion that a physician be included in the department to make decisions on all health related matters and serve in an advisory capacity on all administrative matters.

LEWIS G. ALLEN, M.D., *Councilor*

DISTRICT 4

The Council District meeting was held at the Holiday Inn, Pittsburg, with Dr. Emerson Yoder, President of the Kansas Medical Society, attending. Another guest at this meeting was Dr. James Basham, Fort Scott, a member of the State Board of Regents.

GEORGE W. POGSON, M.D., *Councilor*

DISTRICT 5

Council District 5 has been fairly quiet, with no major problems in the last year.

Riley County has had an influx of nine new physicians in the past year. This represents four different specialities and general practice.

Clay County has been blessed with the addition of a general surgeon and family practitioner.

Geary County has remained the same, since their physician population increased the year before.

Legislative problems are being dealt with through physician contacts with the Representatives and Senators.

RICHARD H. O'DONNELL, M.D., *Councilor*

DISTRICT 6

During the past year, the Shawnee County Medical Society, under the excellent leadership of Drs. Dean T. Collins and Maurice R. Cashman, Jr., has methodically gone about the business of reviewing basic programs, evaluating legislative proposals, interfacing with the press, and looking to general community medical needs. In most areas, the response to effort has been extremely satisfying. Our major failure, however, rested in our inability to influence major health care institutions in the community with respect to important decisions regarding emergency transportation systems. Despite our apparent ineffectiveness, it is the general attitude of the medical community that we should continue to attempt to influence such decisions which affect the quantity and quality of health care in our community.

About six years ago, our Medical Society developed a working sidearm, *i.e.*, the Shawnee County Medical Foundation. Under the auspices of this organization, we have directed our attention to peer review needs within the community, and to medical education. Our peer review systems have functioned intermittently with some success. A current process for study and review of basic mechanisms of peer review is under way.

During 1976, the Foundation provided residency rotations for 36 residents in internal medicine, obstetrics, gynecology, pediatrics, and general surgery. Additionally, the Foundation continued its AMA approved grand rounds in the clinical seminars programs. These programs included conferences in clinical pathology, oncology, neurology, and a seminar on shock. During the year, 229 individual physicians participated and earned a total of 2,708 hours of AMA Category I credit. This year, $50 of our dues will go to underwrite the expenses for continuing medical education. As of February 15, 1977, 209 Northeast Kansas physicians have joined the Shawnee County Medical Foundation. We anticipate an expansion of educational programs in 1977, and will likely grant credit in excess of 4,000 Category I hours. Physicians in surrounding communities are encouraged to join the Foundation and attend the scheduled conferences. Non-members may participate in the conferences for credit on an hourly per-diem basis.

For information regarding the medical education programs, please contact Shawnee County Medical Foundation, 315 West 4th St., Topeka 66603.

MILLARD C. SPENCER, M.D., *Councilor*

DISTRICT 8

Council District 8 has been working smoothly in the past year. Everyone was pleased to have Dr. Emerson Yoder visit with us this past fall.

We were very happy to welcome Siddanna S. Anurshetru, M.D. and Chandy C. Samuel, M.D. to Winfield; both are surgeons. William H. Farrar, M.D. joined the medical staff in Arkansas City as an internist. They were welcomed to the Cowley County Medical Society in October 1976.

The circuit course from KUMC is still coming to the area with meetings alternately in Winfield and Arkansas City, and it is extremely well attended.

We expect a good attendance from District 8 at the annual meeting of the Kansas Medical Society.

JAY L. RICHARDSON, M.D., *Councilor*

DISTRICT 9

Council District 9 held a meeting with President Emerson Yoder on January 19, at the Cavalier Club, Salina. At that time, Dr. Yoder presented some of the legislative problems which we are facing again this session. The meeting was well attended.

The Saline County Medical Society is presently involved in the early stages of forming a medical education unit that would qualify for primary care residency training for the last two years of such programs. Dr. Robert Brown has consented to head and organize this program. It is at present the intent that such program would be ready by July 1979.

KERMIT G. WEDEL, M.D., *Councilor*

DISTRICT 10

Council District 10 is located in central Kansas and consists of approximately 135 physicians in Rice, McPherson, Marion, Reno, and Harvey counties. The outstanding event of the Council District for the year was the visit of Dr. and Mrs. Yoder, and the Executive Di-

rector, Jerry Slaughter, to the meeting of the physicians and their spouses in Hutchinson, on February 22, 1977.

Frequent meetings on an individual county level, as well as three tri-county meetings hosted by the counties of McPherson, Marion, and Harvey were held.

HERBERT FRANSEN, M.D., *Councilor*

DISTRICT 11

The most important and major area of activity by members of this Council District was in helping to obtain passage of the 12-bill professional liability package by the Kansas Legislature. A great deal of effort was put forth by members of our Council District in conjunction with the Kansas Medical Society. A special vote of thanks should go to Drs. Gregg M. Snyder, James A. Loeffler, and Dan K. Roberts of our Council District.

On February 4, 1976, a number of physicians and their wives, while on a junket to Central America, experienced first-hand the devastation of the Guatamala City earthquake. Out of this experience came a great deal of help from the members of our Society and the Auxiliary. Medical supplies, dressings, clothing, and food were flown to the earthquake area. Dr. Lilia Rodriguez Tocker, of our community, personally flew with the supplies in a plane donated by Beech Aircraft Co. Both were cited by Kansas Legislature for their efforts on behalf of our Council District.

On April 1, 1976, implementation of Health Planning Act occurred. Drs. H. Thomas Gray and Hugo P. Weber are members of the board of the Sedgwick County Subarea HSA; Dr. Gray is also a member of the Board of Directors of the 22-county HSA of Southeast Kansas.

In May 1976, Dr. Curtis C. Drevet assumed presidency of the MSSC. Dr. Charles R. Jackson assumed that office on January 1, 1977. Richard J. Cummings, M.D. was elected President-Elect for 1978.

Council District 11 has excellent liaison and relationship with the Wichita State University Branch of KUMC. Dr. D. Cramer Reed, Vice-Chancellor of the Branch, should receive major credit for his continuing efforts in this regard. There is almost none of the so-called "town gown problem" in our community as it relates to the medical school branch. On May 24, 1976, 27 members of the KUMC graduating class had completed their two years of clinical training at the WSU Branch. Sixteen of these remained in Wichita for local residency programs.

The WSU Branch and the community hospitals have made a major contribution to training family practitioners in recent years. Since 1968, Wesley Medical Center has had 34 residents complete training in Wichita. St. Joseph Hospital, Wichita, has graduated 14 residents since 1971. Of these, 40 per cent have stayed in Family Practice in Kansas. Outreach programs for residency family practice experience have been established in Belleville, Minneola, El Dorado, Sterling, and Kiowa. At the present time, there are 28 resident training positions available in Family Practice in the Wichita area.

MSSC has continued for the past two years to support the city-county Emergency Medical Services project which was developed by MSSC; an approved drug list and standing orders have been established through the support of the MSSC; a common network has been installed at a cost of $215,000 to the community, so that mobile intensive care technicians can talk from the site of an emergency to an MD by telephone at his office, home, or hospital. Dr. Ernest L. McClellan is the advisor to this project from the MSSC.

There has been some continued activity in the prepaid health care plan in Sedgwick County during the past year. One of these plans, which was an experimental project sponsored by a family practice group and Blue Cross-Blue Shield with approximately 500 families enrolled, was discontinued during the course of the year because of "red tape, rules, delay in approval by the insurance commissioner's office and marketing problems, as well as problems directly affecting doctor-patient relationship in the family practice setting." A second experimental plan, again sponsored by a private physician group and Blue Cross-Blue Shield, has not been as successful as previously expected by the group. An alternative to the closed panel, a prepaid plan is currently being developed by the MSSC Foundation for Medical Care in conjunction with Blue Cross-Blue Shield. It is hoped that details can be worked out so that enrollment of industrial and other employer-employee groups can begin by the end of 1977. The alternative plan is designed to act as a health care management system in our community, while at the same time preserving the fee for service, private practice, freedom of choice concepts. Its purpose is to provide quality care at an appropriate medical setting based on medical necessity.

The MSSC Board reaffirmed its position in regard to physicians' assistants in Kansas, and recommended that these be registered and regulated by the Kansas State Board of Healing Arts. It is interesting to note that during the five-year program at Wichita State University there have been 59 graduates in the PA program, of whom 95 per cent are currently employed (13% are working in towns of under 2,000 population; 28% in towns of 2,000-5,000; 33% are west of Highway 81, and 29% are employed in Sedgwick County).

The MSSC physicians' paging system continues to grow at a very rapid rate, with 270 physicians now utilizing the paging system.

The MSSC Legislative Committee, chaired by Dr. H. Thomas Gray, has been very active during 1976, and has geared up for working with members of the legislature from our district in regard to proposed legislation for 1977. Annually, the Society's Board of Directors and Legislative Committee have been able to maintain excellent liaison with our local senators and representatives. A local PAC organization is planned for Sedgwick County for 1977, which will be a part of the KaMPAC-AMPAC network. The PAC organization is separate from the medical society, and will have no direct relationship with MSSC activities.

The Professional Investigating Committee, the Executive Director, and the Board of Directors of MSSC have been working very cooperatively during the past year with the Kansas State Board of Healing Arts and the federal, state, and local authorities in regard to complaints against its members, particularly in regard to misuse of drugs. Dr. William C. Swisher, a member of our Council District, is a member of the Kansas State Board of Healing Arts, and is to be commended for his efforts as a member of that Board.

The MSSC Utilization Committee for Skilled Nursing Homes continues to be very active for Title XVIII and XIX patients in Sedgwick County. Dr. Farris D. Evans is chairman of that committee.

MSSC wishes to welcome the Kansas Medical Society's Annual Meeting to Wichita, May 1 through 4, 1977.

IVAN E. RHODES, M.D., *Councilor*

DISTRICT 12

Council District 12 has added three new doctors in three different towns this past year. We have prospects of the same number of additions in the current year. It would appear that the tide has turned toward doctors returning to the rural areas.

We had an exceptionally good district meeting at Pratt on February 15. The doctors were impressed with Dr. Yoder, and feel that he understands our problems.

The present concern of most of the doctors is the future of the physician with PSRO and more government control.

VERNON W. FILLEY, M.D., *Councilor*

DISTRICT 13

Since April 1976, the Central Kansas Medical Society has been augmented so that it now embraces Smith County in addition to Graham, Rooks, Phillips, Osborne, Trego, Ellis, Russell, Ness, Rush and portions of Lincoln and Ellsworth counties.

We welcome Drs. Robert G. Sheppard and Hugh J. Woods, of Smith Center, to the fold of the Central Kansas Medical Society. In addition, our numbers in Hays have increased with the arrival of Dr. Luecha and Dr. Lasley, general surgeons, and Dr. Newcomb, a pathologist. The community of Ellis has been enriched with the arrival of Dr. Pira, and the city of Russell has welcomed Dr. Sambhundh and Dr. Panmai. In July, we are expecting the arrival of Dr. Wallace Weber, dermatologist; Dr. Mickey Myrick, family practitioner; and Dr. James Kifer, radiologist. The recent arrivals have been partially counterbalanced by the retirement of Dr. Lloyd Reynolds, who continues to engage in an active life in Hays.

While we believe that this report reflects a continuing improvement in the doctor-patient ratio in our area, we recognize that the public continues to perceive a shortage in the availability of medical practitioners. As the Central Kansas Medical Society is distributed over a non-urban portion of the state, we recognize that our major need for increase of medical personnel will be in the specialty of family practice. We are thus pleased with the growing efforts of KUMC to augment the number of primary care specialists. We also believe that medical school applicants who are selected from non-urban origin may have a slightly greater interest in returning to the underserved areas, but our thinking is not so simplistic as to believe that a quota basis imposed on the school would lead to anything other than deterioration of the standards for selection. With this in mind, we are quite concerned about the recent legislative effort to require the student to bear the full cost of his medical education or accept a service contact in a location not of his choice. Utilizing the 1976 Kansas Medical Society Roster, and aware that there are some changes not reflected in that directory, we note that of the 2,236 physicians practicing in Kansas only 1,040 are designated as graduates, of KUMC, comprising 46.5 per cent of all Kansas MDs. Thus, the majority of the physicians now practicing in Kansas are not graduates of KUMC. Furthermore, while it is generally stated that most of KUMC graduates gravitate to the larger centers and leave the smaller population bases underserved, an analysis of the larger communities reveals that these communities also must recruit a major fraction of their practitioners from non-KUMC schools. For example, referring to the accompanying table, we noted that the three largest population centers in Kansas (Kansas City and environs, Topeka and Wichita) receive 40, 33, and 36 per cent respectively of their physicians from KUMC. In only one community over 10,000 in population

(Arkansas City), are all of the practicing physicians KUMC graduates, and the range extends down to as low as 9 per cent.

While there is probable need of some revision of these figures and also of the figures relating to the population of Kansas, one relatively recent estimate places the total Kansas population at approximately 2,251 million souls. Of these, 1,070 million reside in the 27 cities over 10,000 in population. Thus, 47.5 per cent of the population of Kansas live within these communities and, doubtless, these same communities tend to provide primary, secondary, and tertiary care for a much larger segment of the population than the 47.5 per cent. It is true, however, that 72 per cent of all physicians practicing in Kansas elect communities over 10,000 (1,625 of 2,236). And, only 611 (27%) of the physicians reside in communities under 10,000. One analysis of these figures would indicate that the smaller communities are simply not as effective in their recruiting efforts. For example, the communities over 10,000 attracted 77 per cent of the 1,196 physicians *who did not graduate from* KU, while the communities under 10,000 managed to lure only 22 per cent. Rather than addressing themselves to compulsory methods of placing physicians in locations which are not naturally attractive, the legislature and the affected communities would do far better to enhance the general image of these areas as desirable places in which to practice and to live. Those features which make a community desirable for a physician are not necessarily different from those which make a community desirable to an architect, engineer, lawyer, or accountant.

According to the Directory of the Kansas Medical Society, 45 communities listed are served by one or more physicians, none of whom graduated from KUMC; these 45 communities are all served by graduates of schools outside of Kansas. One danger in the proposed legislation is that, as with protective tariffs, we may create more problems than we solve. For example, under this concept, where will the future dentists who practice in Kansas receive their training? Certainly not in Kansas, unless the legislature is also prepared to establish, at considerable expense, a dental school. We know that we train an excess of practitioners in some fields, architecture for example, not all of whom can be absorbed by the needs of Kansas. Should we, then, train

	Population in Thousands	*No. M.D.'s*	*No. K.U.*	*Non K.U.*	*% K.U.*
Arkansas City	13.9	7	7	0	100
Atchison	12.8	11	4	7	36
Chanute	10.3	8	7	1	87
Coffeyville	17.2	11	7	4	64
Dodge City	14.7	20	8	12	40
El Dorado	12.7	13	8	5	61
Emporia	21.8	33	20	13	61
Garden City	13.9	23	10	13	43
Great Bend	18.3	29	20	9	69
Hays	14.4	31	14	17	45
Hutchinson	38.7	54	30	24	55
Independence	11.6	7	6	1	86
Junction City	20.9	11	1	10	9
Kansas City	121.0	303	121	182	40
Lawrence	33.8	50	33	17	66
Leavenworth	23.8	23	8	15	35
Liberal	14.1	13	8	5	61
Manhattan	26.0	39	19	20	49
McPherson	10.8	8	4	4	50
Newton	15.3	41	21	20	51
Olathe	11.0	21	9	12	43
Ottawa	11.0	11	7	4	64
Pittsburg	20.1	21	12	9	57
Salina	47.5	59	38	21	64
Topeka	127.5	276	90	186	33
Wichita	275.5	480	175	305	36
Winfield	10.8	19	7	12	37

	Kansas Population	%	*Kan. M.D.'s*	%	*K.U. M.D.'s*	%	*Non K.U. M.D.'s*	%
Total	2251	100	2236	100	1040	100	1196	100
Over 10,000	1070	48	1625	72	694	66.7	931	78
Under 10,000	1181	52	611	28	346	33.3	265	22

only the number of architects who can be expected to be employed in this state? Carrying this principle to its extreme, presumably we should only raise the amount of wheat which the population of Kansas can be expected to consume in the form of bread. Furthermore, there is a considerable loss of professional stimulation if all of the practitioners have been exposed to only the same set of training conditions. Such an incestuous pattern would quickly lead to loss of the cross-fertility between practitioners of varying backgrounds. For all these reasons, we would urge the legislature to abandon its much publicized proposal to force KU medical students to practice within the confines of the state of Kansas after graduation.

The Central Kansas Medical Society was the first host of the KMS President on his fall speaking tour. We enjoyed this visit by Dr. Emerson Yoder in November, at which time he renewed his friendship with several of our practitioners and advised us of some of the imminent problems facing medicine in general and the Kansas Medical Society in particular.

HAWK, the HSA for western Kansas, apparently has considerable vigor and has recently endorsed in our immediate area the erection of a new 60-bed nursing home facility and the acquisition of a linear accelerator by St. Anthony Hospital.

During the course of the year, the High Plains Medical Education Committee has sponsored monthly AMA-accredited continuing education programs which have enjoyed a generally good reception.

The Hays physicians enjoyed playing host to seven KU senior medical students in February.

While the *Journal* appears to become slimmer over the years, as is readily evident, when comparing bound annual volumes, that we enjoy some of the wittiest literature extant, that provided by our senior editor *DEG*. Speaking for myself, I particularly enjoyed the open letter to President Carter. Would that he would open his ears to some of this sage advice.

L. William Halling, M.D., *Councilor*

DISTRICT 16

During the past year, the sun has continued to shine on Northwestern Kansas with the addition of two more physicians to our ranks: Drs. Loyd O. Long, family practitioner in Goodland, and Victor H. Hildyard, Sr., otolaryngologist in Colby.

The Northwest Kansas Medical Society met in November with Dr. Emerson Yoder, President of the Kansas Medical Society.

The most important thing to happen here in the past year was the affiliation of the district with the University of Kansas revitalized preceptor program. The first contingent of six preceptees spent the month of January gaining first-hand experience in Colby, Goodland, Atwood, St. Francis, Oberling, and Hoxie.

Floyd L. Smith, M.D., *Councilor*

DISTRICT 17

The Southwest Kansas Medical Society held four meetings in 1976. In March, Dr. Robert Miller presented results of his research while in the United States Air Force, concerning high altitude physiology. In September, we heard a presentation on the Kansas Foundation. Our annual meeting in November was highlighted by a visit from Dr. Emerson Yoder, who spoke on the Kansas Medical Society activities past, present, and future. The December meeting was the election of new officers, and there was an excellent presentation on Welfare, Title XIX, and Blue Cross as the carrier for Medicare and Medicaid. Our new officers for 1977 are: Alfred H. Thiemann, D.O., President; Ted L. Macy, M.D., Vice-President; and James A. Barnard, M.D., Secretary-Treasurer.

There have been numerous changes in the membership of District 17. Dr. Barnard completed his residency in obstetrics-gynecology and has returned to Garden City, where he was previously engaged in general practice. Dr. Cecil Oakes is a new family practitioner, associated with the Garden Medical Specialists. Dr. Shotton has joined Dr. J. R. Zimmerman in family practice in the Lakin areas, and Dr. V. Ramchandani has joined Dr. Ronald F. Dailey, in family practice, in the Johnson community. As might be expected, there have also been losses to offset these gains. Dr. Jerry L. Jumper and Dr. Robert Fenton left the Garden City area. Dr. Robert M. Fenton joined the academic ranks and is teaching in the Family Practice program at the University of Nebraska.

Southwest Kansas continues to be short on moisture and physicians. Both are needed if this lovely area of the state is to develop to its fullest potential. We are looking forward to 1977, and its continued challenges and rewards.

Max E. Teare, M.D., *Councilor*

DISTRICT 18

About 40 physicians attended the annual meeting of Council District 18, which was held at the Eldridge Hotel in Lawrence, on November 17, 1976. Dr. Robert W. Hughes, of Lawrence, was elected to serve the next term as District Councilor. State President, Dr. Emerson Yoder, gave an excellent review of current legislation

and the Kansas Medical Society business for the coming year. We were pleased that Mrs. Yoder and Gary Caruthers were also able to attend.

There was concern among our membership over K.S.A. 2833, regarding reciprocity licensing of foreign medical graduates in Kansas without the need of examination. The matter will be reviewed by the Executive Office in Topeka.

GLENN L. MADSEN, M.D., *Councilor*

DISTRICT 19

The newly formed Councilor District 19 consists almost entirely of the present Southeast Kansas Medical Society, which encompasess seven counties in this part of the state. We meet regularly and faithfully on the third Wednesday evening of each month, at the Independence Country Club. Each dinner meeting is also enhanced with a scientific part of the program, usually consisting of a speaker of some renown. Our program committee chairman for the past year has done an excellent job of providing excellent programs for the physicians.

Most of the members' wives also attend and have their Auxiliary meeting following the dinner, while the scientific medical meeting is being held in an adjoining room.

Five new physicians have joined the Southeast Medical Society during the 1976 calendar year. They are as follows: Drs. Ruben J. Burkman, Chanute, Family Practice; William W. Emmot, Independence, Internal Medicine; Sang W. Ha, Coffeyville, OB-Gyn.; M. A. Sheikh, Independence, Surgery; Waymer J. Strahm, Independence, Psychiatry.

One new applicant, Dr. Robert Haskins, of Chanute, has applied for membership this year.

Only two minor disputes were encountered this past year, and both were settled amicably. One involved a purported overcharge by Blue Shield of the physician's surgical fee, and another was a complaint registered through the KMS Executive Office in Topeka, by a patient who felt she had been overcharged by her attending physician. I am hopeful that 1977 will present no larger problems than these for District 19.

ROBERT F. MOORE, M.D., *Councilor*

THE MENNINGER FOUNDATION

A Workshop for Physicians and Their Families

August 14-19, 1977 Estes Park, Colorado

The health and well-being of a community is dependent upon how the physician functions. Very frequently, the physician functions best when "all is going well with the family." When there are family problems (and these are natural in the maturation of any family), if they require a great deal of preoccupied energy of the physician, less energy is available for the necessities of an active medical practice.

This workshop will explore the developmental phases of family life, provide understanding of family communications and reevaluate the implications that medical practice has on family life.

CME credit available

For further information contact: June Housholder, Division of Continuing Education, The Menninger Foundation, P.O. Box 829, Topeka, Kansas 66601. 913-234-9566, ext. 3685.

Resolutions

To Be Introduced at First House of Delegates, May 1, 1977

1977 REFERENCE COMMITTEES

Reference Committee A

Robert P. Hudson, M.D., Kansas City, *Chairman*
Carl C. Gunter, M.D., Quinter
Antonio Huaman, M.D., Topeka
Charles R. Jackson, M.D., Wichita
James W. Shaw, Jr., M.D., Hutchinson

Reference Committee B

Alex Scott, M.D., Junction City, *Chairman*
Paul W. Brown, M.D., Cimarron
Ernest P. Carreau, M.D., Wichita
Firmin E. Snodell, M.D., Shawnee Mission
R. Burnley White, M.D., Winfield

RESOLUTION NO. 77-

Reference Committee—

(Submitted by Commission for Education)

Verification of CME

Whereas, The Kansas Medical Society requires continuing medical education for continued membership; and

Whereas, The Kansas Board of Healing Arts requires specified continuing medical education for maintenance of license to practice in Kansas; and

Whereas, The Board of Healing Arts accepts the certification of the Kansas Medical Society that physicians have attained the quantity and kind of continuing medical education to fulfill the said requirements of the Board of Healing Arts; and

Whereas, The Kansas Medical Society accepts the Physician's Recognition Award of the American Medical Association, membership in the American Academy of Family Practice and like credentials of some specialty medical organizations; and

Whereas, Many physicians are not members of the American Medical Association, American Academy of Family Practice or any other society recognized by Kansas Medical Society or the Board of Healing Arts; and

Whereas, Physicians who are not members of these organizations may not wish to petition them to certify their continuing medical education, especially when doing so costs them substantial amounts of money; and

Whereas, It seems appropriate that Kansas Medical Society have some autonomous ability to certify the fulfillment of continuing medical education requirements; and

Whereas, Such an autonomous capabilty would encumber Kansas Medical Society with additional amounts of money for which allotments from members dues are not available; therefore be it

Resolved, That the House of Delegates authorize the Continuing Education Committee to establish an independent mechanism for certifying continuing medical education; and be it further

Resolved, That the Continuing Education Committee be authorized to establish a fee for such a service sufficient to defray the cost of such service, not to exceed One Hundred Dollars ($100.00).

RESOLUTION NO. 77-

Reference Committee—

(Submitted by Section of Ear, Nose, and Throat)

Speech Pathologists and Audiologists

Resolved, That the Kansas Medical Society oppose the independent licensure of Speech Pathologists and Audiologists for the following reasons:

1. Neither Speech Pathologists or Audiologists are medically trained and are, therefore, unqualified to perform any diagnostic procedures or other medically related activities. Their training limits them to the measuring of hearing and to the use of certain training techniques for people with speech and hearing disorders.

2. The merits of this licensure is not supported by the number of Speech Pathologists and Audiologists that would be covered by this law. It has been estimated that no more than 15-18 people in the state of Kansas, who are engaged in private practice, will be affected by this proposed law.

3. The need for this proposed law is also questioned by the fact that no complaints have ever been filed by consumers of the state of Kansas in the area of speech pathology or audiology.

4. A law of this type, although favorably written at the beginning, could, in the future, be amended to exclude, or limit, the physician or personnel working under his supervision from performing these tasks.

5. A law of this type will have inflationary effects on the cost of health care, since one of the requirements is that a Master's Degree would be necessary for anyone performing these measurements of hearing. The impact on the cost of services to the rural areas of the state of Kansas is predictable.

6. No attempt has been made by the Speech Pathologists or Audiologists to seek the advice and expertise of the Kansas State Board of Healing Arts as to jurisdiction, formulation, or other matters regarding this proposed licensure.

RESOLUTION NO. 77-

REFERENCE COMMITTEE—

(Submitted by the Commission on Education)

Diabetes Increase in Children

WHEREAS, Diabetes among children is increasing at the rate of 20-25 per cent annually; and

WHEREAS, The Kansas Medical Society Committee on School Health recommended in Resolution No. 74-2 that physical examinations for school children include urinalysis, which recommendation was not followed and was omitted from the school examination form; therefore be it

Resolved, That the Committee on School Health now strongly urges that KSHSAA Physical Examination Form include "hemoglobin, hematocrit and urinalysis" as recommended requirements for completion of the physician's report.

RESOLUTION NO. 77-

REFERENCE COMMITTEE—

(Submitted by Wyandotte County Medical Society)

Fall House of Delegates Meeting

WHEREAS, There are not always items of real importance to be discussed at the Fall meeting of the House of Delegates; and

WHEREAS, The bylaws presently require a Fall meeting; therefore be it

Resolved, That the bylaws be amended to make the Fall meeting of the House of Delegates an "on call" session with the decision to be made by the Executive Committee at least 60 (sixty) days prior to the date of the session.

RESOLUTION NO. 77-

REFERENCE COMMITTEE—

(Submitted by KaMPAC)

Political Action

WHEREAS, The practice of medicine is constantly influenced by acts of the Kansas Legislature and the U.S. Congress; and

WHEREAS, The only effective means of influencing medical legislation is by the election of well informed "friends of medicine," who are accessible to the medical practitioners; and

WHEREAS, Political action is regulated by the Federal Election Commission widely practiced by labor and professional groups; therefore be it

Resolved, That Kansas physicians become politically active in the ranks of the Kansas Medical Political Action Committee or any other effective group; and be it further

Resolved, That Kansas physicials support, financially and liberally, candidates who are "friends of medicine"; and be it further

Resolved, That Kansas physicians consider it a responsibility of our profession to constantly inform elected and prospective legislators about the views of the practicing physicians on the issues that concern the health of our citizens.

RESOLUTION NO. 77-

REFERENCE COMMITTEE—

(Submitted by Johnson County Medical Society)

National Health Insurance

WHEREAS, The American Medical Association House of Delegates on December 7, 1976, adopted "Report QQ" prepared by the Trustees and Staff of the AMA; and

WHEREAS, "Report QQ" directs support of HR 6222, better known as the AMA's bill on National Health Insurance, currently identified as HR-1818 and S-218; and

WHEREAS, The vote by the House of Delegates of the AMA was 181:57 for adoption; and

WHEREAS, The Kansas Medical Society is opposed to any national health insurance program and its Delegates to the AMA have been instructed to oppose such endeavors, which they have done; and

WHEREAS, The vote by the House of Delegates of the AMA does not reflect the opinion, wishes or desires of the Kansas Medical Society; and

WHEREAS, This action by the House of Delegates to the American Medical Association represents the only business, corporation, or private or-

21 ganization to support a bill to nationalize itself;
22 and
23 WHEREAS, National health insurance, regardless
24 of how structured or financed, is destructive of the
25 independence of private practice; therefore be it
26 *Resolved*, That the Johnson County Medical So-
27 ciety adopt and submit this, and the following
28 resolution, for adoption to the House of Delegates
29 of the Kansas Medical Society; and that it be
30 further
31 *Resolved*, That the Kansas Medical Society op-
32 pose any plan for national health insurance which
33 *requires* participation, in any form, by either phy-
34 sician, patient, or private insurance company (this
35 includes HR-1818 and S-218), and that the prac-
36 tice of medicine is, and of right ought to be, in-
37 dependent of federal control; and be it further
38 *Resolved*, That a copy of this resolution be sent
39 to the AMA; the AAPS; Representative Paul
40 Rogers (D-Fla), Chairman of the Health Subcom-
41 mittee of the House Interstate and Foreign Com-
42 merce Committee; to all Kansas Congressmen; and
43 both Senators from Kansas.

Addendum to Resolution No. 77-

The following material was presented by Joseph I. Berman, M.D., M.P.H., at the AMA Conference in San Francisco, April 11, 1975. Dr. Berman is Chairman, Peer Review Committee, Medical and Chirurgical Faculty of Maryland, and Chief, Department of Community Medicine, Sinai Hospital of Baltimore, Inc.

Reprinted from *Maryland State Medical Journal*, February 1976.

Introduction

Maryland does not have a disabled physician act per se. Rather, the disabled physician is covered in the law dealing with physician discipline.

As the result of legislation passed by the Maryland General Assembly in the spring of 1969, the Commission on Medical Discipline, a state agency, was established and became operational in July of that year. The creation of this Commission and the unique relationship of the State Commission to the Maryland Medical Society (The Medical and Chirurgical Faculty of Maryland) has resulted in major changes in the manner in which physicians suspected of improper medical practice, whether they be ill or not, are dealt with in the State of Maryland.

Situation Prior to 1969

Until July 1969, the Board of Medical Examiners of the State of Maryland was responsible for physician discipline. The Board is made up of eight physicians who are elected by the membership of the Medical and Chirurgical Faculty. The Board had a number of duties besides the responsibility for physician discipline, and except for physician discipline it maintains these other responsibilities to the present. These include: examining and licensing physicians in practice in Maryland, collecting fees, maintaining a physician registry and establishing qualifications for certain groups to whom physicians may delegate duties, including cardiac rescue technicians and physicians' assistants. Until 1969, the Board of Medical Examiners was the single group responsible for giving medical licenses and also for revoking, suspending or putting on probation those physicians who had licenses in the State.

As I will point out, those members of the State Medical Society who were instrumental in changing the Maryland law dealing with the disciplining of physicians felt that it was improper for one agency to be given both responsibilities.

The Maryland Annotated Code prior to 1969 stated that the Board of Medical Examiners could revoke or suspend a physician's license, or place him on probation, for any of the following causes: (1) Use of fraud in obtaining a medical license; (2) Habitual drunkenness; (3) Insanity, as determined by the Maryland Code; (4) Addiction to narcotics; (5) Abortion, as determined by the Maryland Code; (6) Conviction of a crime involving moral turpitude or unprofessional or dishonorable conduct.

The law further stated that a physician could appeal an action taken against him by the Board of Medical Examiners. During the period in which these appeals were taking place the physician could continue to practice medicine.

Formulation of a New Law

In 1965, an ad hoc committee of the State Medical Society began meeting to consider the law then on the statute books and to suggest possible changes to improve it.

Frustration and concern are the two best words that would sum up the creation of this ad hoc committee of the Medical Society. The frustration centered upon the relative ineffectiveness of the then Board of Medical Examiners in dealing with the physicians who were practicing badly, either because of ignorance, avarice or illness. It was felt that the Board acted too slowly because of the responsibilities of the board in having to also act as a licensing body. However, even if the Board met more frequently and devoted more time to the problems of poorly practicing and functioning physi-

cians, the law in Maryland as written at that time would still have rendered the Board relatively ineffective.

The Board of Medical Examiners had no subpoena power and no power to put witnesses under oath, with all the attendant sanctions of perjury. The Board, acting with advice of the Attorney General's Office, construed the law concerning the disciplining of physicians strictly. They thought that they could not revoke or suspend a physician's license to practice unless and until that physician was convicted of a crime. In the absence of such a conviction, rarely gained, the Board uniformly approached the matter as one in which other (but less effective) disciplinary actions could be taken.

There was also considerable frustration about the fact that the Medical Society itself had no statutory recognition in the old law and thus no defined role in dealing with physicians practicing badly for whatever reason. Physicians could be and were called before committees of the Medical Society, most often the Mediation Committee; however, there was no compulsion for nonmembers of the Medical Society to respond to the request by the Medical Society to come in and discuss a problem. As one physician stated: "We would write and ask those individuals who were nonmembers of the Society to come in so we could investigate the charges which were made against them. In many instances they did not even bother to answer letters."

The concern lay with this awareness that the law did not permit physicians to effectively keep their own house in order and thus protect the public from certain doctors who were practicing badly. The State legislators were aware of these problems, and increasingly pointed questions were being asked of the Medical Society leadership as to why the situation was being allowed to continue. At the time that this ad hoc committee presented its recommendations to the Medical Society's House of Delegates in 1967, the question seemed to be not whether the law concerning disciplining of physicians would be changed, but by whom.

Over a period of approximately two years, from 1965 to 1967, this ad hoc committee debated over a new law for Maryland that would better deal with the poorly-practicing physician, whatever his problem. No particular mention of the sick doctor was made in the deliberations that I reviewed. Rather, the committee tried to set down principles which could be made into law, that would deal with matters of medical ethics and illegal conduct—and that could apply to the sick physician.

After two meetings with the Medical Society's House of Delegates, the recommendations of the original ad hoc committee, with modification, was adopted. The recommendations were then drafted into a proposed law and were introduced in the Maryland General Assembly in the spring of 1969. These recommendations were accepted by the State legislators with few changes and they became law as of July 1, 1969. It is this law, as developed by the physician leadership of the State of Maryland, with subsequent amendments, that I will now describe.

Present Law Concerning Physician Discipline

Article 43, Section 130, of the Annotated Code of Maryland contains the statute concerning discipline of physicians. It is a far different statute than the one I described at the beginning of my talk.

A State Commission on Medical Discipline was established which assumed the responsibilities for the disciplining of physicians. The responsibility that had resided in the Board of Medical Examiners was removed from that body.

Nine physicians sit on this Commission. They include the President and the Chairman of the Council of the Medical and Chirurgical Faculty, two physicians appointed by the Governor, selected from a list submitted by the State Medical Society, with that list having been composed from a list of nominees submitted by component (county) societies, two other licensed practicing physicians appointed by the governor and, finally, three members of the Board of Medical Examiners selected by that Board. Considerable hard bargaining resulted in this Board composition. Members of the Commission are not salaried, but receive reimbursement for actual expenses.

The Commission functions under the Administrative Procedures Act of the State of Maryland which insures due process to the physician appearing before the Commission. This also gives the Commission the power to subpoena and makes the physician liable to prosecution if he perjures himself during the course of the Commission's deliberations. The physician has the right to cross-examine witnesses and all evidence becomes part of the record.

What is particularly unique is the relationship established between the Commission on Medical Discipline and the Medical Society. The law declares that the Commission will refer any cases coming to its attention to the appropriate local county society or committee of the Medical Faculty of the State of Maryland for their investigation and report. The report to the Commission must contain such recommendations as the investigation by the Medical Society reveals might be necessary for adequate disciplinary procedures. The recommendations are then considered by the Commission, which takes whatever action it deems appropriate, as provided in the law.

Among the major criticisms of the old law and the Board of Medical Examiners was the fact that the Board

initiated its own investigation and then decided on the merits of the case. There was concern that this could deny the physician an unbiased hearing. The new law requires that the Commission, a state agency, after being presented a problem, must then refer the case to the county or state society for investigation and recommendations. The medical society is given responsibility in this law that it never had in the earlier law. While the final decision lies with the Commission, the recommendations of the medical society obviously have major importance.

The law goes on to state that the local or state society may initiate action by virtue of information coming to its attention from its own members or through any other source, such cases being handled in the same manner as though they had been referred to it by the Commission.

Thus, the medical society may become involved either because of information coming directly to it or because of a request for investigation from the Commission on Medical Discipline.

In those complaints which begin with the medical society, either state or local, the physicians on the appropriate committees hear the problem and try to solve it locally. The medical society acts as adviser and educator to the physician.

Where, however, after investigation of the problem, the physician members of the state or local society feel that some action against a doctor's license may be indicated, they can send the results of their investigation to the Commission with recommendation for further action. The vast majority of cases coming before state or local society committees are dealt with locally and never go to the Commission. In those cases where the medical society committee feels that the state commission should take action against a physician, it is behaving somewhat like a grand jury.

The Commission has worked out a set of rules for its own government and these are still being revised and worked upon.

At the present time, the chairman of the Commission, upon receiving a report and recommendations from a medical society, will select two members of the Commission to review the case and if necessary to discuss the case with the referring society's committee. These two men will then make recommendations to the chairman of the Commission as to whether they feel, in their judgment, that a serious problem exists, warranting Commission review.

The two commissioners who review the evidence and work with the local society committee do not subsequently participate in the Commission's deliberations upon that particular case because of possible bias. A lawyer for the Commission, working independently, develops the evidence and acts as a prosecuting attorney during the Commission's hearing. The physician is entitled to bring his own attorney to help with his defense. The seven remaining Commission members then act as a jury. Members of the concerned medical society committee may be called as witnesses during the Commission's hearing.

It was the intent of those who created this Commission that the Commission be used only as a last resort and that the local and state societies deal with the majority of problems. The desire was to keep physician peer review with physicians at the local level as much as possible.

When a physician refuses to appear before a medical society committee, either state or local, the society can then ask the Commission to subpoena the doctor to appear before the society committee. The relationship spelled out between the Commission and the medical society investigating the case makes this possible. Nonmembership in the medical society does not in any way protect the physician from this medical society review.

The Commission has the power to reprimand the physician or place him on probation, revoke or suspend his license, for any of 18 causes. Space does not allow review of all of these, listed as unprofessional conduct. They were originally culled from the Medical Practice Acts of several other states, from the causes listed in the earlier Maryland law and from the American Medical Association's Principles of Medical Ethics. Those pertaining to the sick physician would include Number 6 (Addiction to narcotics, habitual drunkenness, or rendering professional services to a patient if the physician is intoxicated or under the influence of drugs); and Number 18 (Professional or mental incompetency). Number 18 has been amended and the word "physical" added after July 1, 1975, reading "professional, physical or mental incompetency."

Additional legislation was passed in the Maryland Legislature in 1975, to broaden the Commission's powers. This amendment gives the Commission the power to compel a Doctor of Medicine to submit to a mental or physical examination by a physician designated by the Commission during the course of an investigation. The cost will be borne by the Commission. Failure of doctor to submit to such an examination when directed can constitute an admission of the allegations against him. A Doctor of Medicine, licensed under the Medical Practice Act of Maryland, who accepts the privileges of practice is deemed to have given his consent to submit to a mental or physical examination when directed to do so by the Commission. A physician whose license is affected under this proceeding shall be given an opportunity at reasonable intervals to demonstrate that he is capable of resuming competent practice of medicine.

In legislation as originally passed in 1969, the physician if found guilty had the right to appeal to the courts. The original law stated that where judicial review was sought a license revocation would be stayed and would not commence until final judgment had been rendered and the licensee's judicial remedies exhausted. This was the same situation as existed within the Board of Medical Examiners where sick physicians could continue to practice while court procedures dragged on for years.

Amendment to the Medical Practice Act made in 1974 states that if a physician is found guilty of unprofessional conduct by the Commission and his license is revoked or suspended, revocation or suspension shall not be stayed and shall be effective and commence to run immediately. The stay is no longer automatic; rather the Commission's order is.

Problems

Problems have arisen as a result of this new law and the unique relationship between the state commission and the medical society.

There has been considerable debate over the protection of the physician's rights while he is appearing before a medical society committee. A physician may make statements which a society's committee could use against him if it decides to make recommendations to the Board for action against a physician's license.

The physician needs to know this and also that he can remain silent or bring an attorney before the society's committee if he so chooses. However, in the vast majority of cases originating in the medical society committees, no action goes to the Commission. There is considerable opposition among the society's membership to warning every doctor who appears before any committee for any reason of his rights to remain silent and to bring a lawyer. It is felt that this could destroy the medical society's ability, both state and local, to informally advise and assist physicians for what are usually relatively minor problems.

This situation is still under intense study. At the present time, however, the Commission and the Council of the state medical society agree that committee chairmen need not specifically advise physicians of their right to remain silent or to bring in a lawyer, unless the committee begins to find problems of major importance with that particular physician. At that point, the committee chairman is advised to stop the proceedings and advise the physician of his rights. If need be, the deliberations with the physician can be rescheduled for another time.

We are faced with a need to protect the physician's rights as he appears before the medical society's committees and the need to maintain the usually close peer relationship without threat of legal action that characterizes the various committee deliberations.

A second problem has to do with the investigation and report to the Commission by the medical society. Neither the state nor local county medical societies have funds specifically set aside for investigating purposes. Thus, these committees must do a great deal of voluntary, unpaid work in gathering information about physicians and this information must be put together in a report, with recommendations to the Commission. While the Commission has the right to gather further information, the original investigation sent to it by the medical society committee has great weight in helping the Commission to decide as to how it should proceed.

Third, there needs to be clear communication and understanding between the Commission and the various medical societies. Occasionally a medical society committee will refer a case to the Commission that should have been handled by the local committee completely. Such inappropriate referrals can consume a great deal of time. At other times, the Commission takes what seems to be an inordinate amount of time in reaching a decision on a case sent to it by a medical society committee. Lack of feedback results in great frustration on the part of the society's committee members who have spent often many hours in their own investigation of the problem.

Summary

Maryland does not have a "disabled doctor" law per se. Rather, the disabled physician is dealt with within the same administrative framework as other physicians having practice problems.

The system for dealing with physicians demonstrating unprofessional conduct, whether sick or not, is dependent upon close working relationships between the Commission on Medical Discipline and the state and local medical societies. While the Commission alone is empowered to render a judgment against a doctor which can result in revocation, suspension, probation or reprimand, in every case a medical society committee must investigate the problem first and render a report to the Commission. This report is necessary to the Commission's decision as to whether to hold a formal hearing and the report carries a great deal of weight in the Commission's rendering a decision.

The Commission, composed entirely of physicians, has broad latitude, with 18 separate grounds for license revocation, suspension, or reprimand. It is a quasi-judicial body with the right to subpoena and put witnesses under oath. It also has the right to subpoena physicians to appear before local medical society committees. Under a new amendment to the Maryland Medical Practice Act, physicians can now be required to

undergo mental and/or physical examination by the Commission.

The effect of this new law has been to greatly enhance the medical society's role in physician discipline. Where the problem has been referred to the medical society by the Commission, the society must gather information for the report. Where the original complaint comes to the medical society, then the society must decide whether it should handle the problem locally, using education, peer pressure, and/or the threat of going to the Commission, or whether it should actually refer the case directly to the Commission for further action. In the case of my own Committee on Drugs of the state medical society, we have convinced six elderly physicians to retire from practice rather than have to face the Commission for license revocation on the grounds of mental incompetence. In dealing with senile, alcoholic, drug-dependent or otherwise-ill physicians, the society's committees now have real leverage to get the doctor to accept treatment and/or to confine his practice.

The process of cooperation between Commission and medical society continues to evolve. A major problem now being worked on is the assurance that a physician appearing before a medical society committee will have his rights protected without creating a courtroom atmosphere at each committee meeting that might destroy the committee's effectiveness as a peer group helping, advising, and educating physicians.

No medical society could ask for such a law unless its membership is willing first to admit that we have serious problems with some of our associates and, second, that sometimes we will have to ask that a colleague be denied the right to practice medicine. Our statute, with all its problems, has provided organized medicine in Maryland with the opportunity to police itself and to meaningfully assure the public that only competent physicians may practice in the state.

RESOLUTION NO. 77-

(Submitted by Wyandotte County Medical Society)

Physician Discipline

WHEREAS, There is presently in the state of Kansas very little in the way of a mechanism for physician discipline except those mechanisms that exist within the hospital medical staffs and the efforts of Kansas State Board of Healing Arts; and

WHEREAS, The physicians of Kansas feel that a stronger mechanism needs to be established on a statewide basis outside the confines of the hospitals; and

WHEREAS, It would seem appropriate that this function is burdensome to the Board of Healing Arts in light of their other many duties; and

WHEREAS, Other states are now working toward solutions of this same situation, many with resulting positive mechanisms such as the state of Maryland, a description of which is attached and made a part of this resolution; therefore be it

Resolved, That the Kansas Medical Society will immediately undertake a study of possible solutions for the problem of physician discipline in the state of Kansas through its Legislative Committee and the Society's Legal Counsel. They are hereby charged with the responsibility of developing legislation for the establishment of a State Commission on Medical Discipline separate from the Board of Healing Arts but working in conjunction with them as to their duties, functions, and appeals of their decisions. This Commission should consist of physicians (MDs and DOs) who are selected from a list of physicians supplied by the Kansas Medical Society and the Kansas State Osteopathic Association, such selection being done by the Governor of Kansas. This Commission would be responsible for any corrective action pertaining to MDs or DOs whether the action were of an educational nature, a simple reprimand or more stringent disciplinary action such as probation, suspension, or revocation of licensure. The duties of the Commission would consist of investigation into any complaints concerning a licensed physician, and carrying out any action necessary, with the Board of Healing Arts serving as an appeal board, and be it further

Resolved, That this study and legislative proposal be referred to the Council for its study and that the Council will be responsible for informing the membership of the Kansas Medical Society of the legislative proposal and, once approved by the Council, will be prepared in proper form for introduction in the next Kansas Legislative Session—January 1978.

The Commission on Medical Discipline of Maryland

Until 1969, the Board of Medical Examiners of the state of Maryland had the responsibility for physicians' discipline as well as the responsibility for physicians' licensure, collection of fees, and maintaining a physicians' registry. The Board of Medical Examiners could revoke or suspend a physician's license or it could place him on probation for one of five reasons: (1) fraud in obtaining a medical license; (2) habitual drunkenness; (3) insanity; (4) abortion; and (5) conviction of a crime involving moral terpitude, unprofessional or dishonorable conduct. Any action by the BME was subject

to appeal; during appeal, which could drag on for years, a physician could continue to practice. The BME had no subpoena power and no power to put witnesses under oath, with all the attendant sanctions of perjury. They thought that they could not revoke or suspend a physician's license to practice unless and until that physician was convicted of a crime. In the absense of such a conviction, rarely gained, the Board uniformly approached the matter as one in which other (but less effective) disciplinary actions could be taken.

The State Medical Society of Maryland debated over a period of two years over a new law for Maryland that would better deal with the poorly-practicing physician, whatever his problem. The recommendations were drafted into a proposed law and were introduced in the Maryland General Assembly in Spring 1969. These recommendations were accepted by the state legislators with few changes and they became law as of July 1, 1969. A State Commission on Medical Discipline was established which assumed the responsibilities for the disciplining of physicians. The responsibility that had resided in the Board of Medical Examiners was removed from that body.

Description of the Commission on Medical Discipline of Maryland

A. Consists of nine members, all physicians: president and chairman of the Council of the state medical society, two physicians appointed by the governor from a list submitted by the state medical society, two other physicians appointed by the Governor, and three physicians from the Board of Medical Examiners appointed by the Board.

B. Legal counsel is supplied by the Attorney General's office: one attorney presents the Commission's case at formal hearings and another advises the Commission as to legal matters.

C. Members are appointed for three years and receive no compensation other than reimbursement for actual expenses. They may be removed by the Secretary of Health and Mental Hygiene for neglect of duty, misconduct, malfeasance, or misfeasance in office.

D. Meetings are scheduled monthly, but more frequent sessions are often necessary.

E. There is a separation of function to avoid the possibility of "witch hunts." By law, any charge that becomes known to the Commission must be referred to the appropriate committee of the state medical society or to a local component medical society for investigation and a report rendered to the Commission within 90 days. In addition, the state medical society or local medical society may initiate action by virtue of information coming to its attention from its members or from any source, such cases to be handled in the same manner as though they had been referred to it by the Commission.

F. The medical society may request the Commission to issue a subpoena for a physician to appear with or without his records before the local committee. The medical society may also request that the physician undergo a physical or psychiatric examination. If the physician refuses such examination, this refusal constitutes *prima facie* evidence of incompetence to practice medicine.

G. The Commission has the power to reprimand the physician, place him on probation, revoke or suspend his license for any of 18 causes:

1. Fraudulent or deceptive procuring or use of a license;
2. Solicitation or advertising contrary to the Board of Medical Examiners' regulations;
3. Performance of an abortion outside a licensed hospital (which in view of recent Supreme Court decisions is probably unconstitutional);
4. Conviction of a crime involving moral turpitude;
5. Abandonment of a patient;
6. Addiction to narcotics, habitual drunkenness, or rendering professional services to a patient if the physician is intoxicated or under the influence of drugs;
7. Promotion by a physician of the sale of drugs, devices, appliances, or goods provided for a patient in such a manner as to exploit the patient for financial gain of the physician;
8. Immoral conduct of a physician in his practice as a physician;
9. Willful making and filing false reports or records in his practice as a physician;
10. Willful omission to file or record or willfully impeding or obstructing a filing or recording or inducing another person to omit to file or record medical reports required by law;
11. Failure to furnish details of a patient's medical record to succeeding physicians or hospital, upon proper request;
12. Solicitation of professional patronage by agents or persons or profiting from the acts of those representing themselves to be agents of the licensed physician;
13. Division of fees or agreeing to split or divide the fees received for professional services with any person for bringing to or referring a patient;

13-1. Agreeing with clinical or bioanalytical laboratories to make payments to such laboratories for individual tests or test series for patients, unless the physician discloses on the bills to pa-

tients or third-party payers the name of such laboratory, the amount or amounts paid to such laboratories for individual tests or test series, and the amount of his procurement or processing charge, if any, for each specimen taken;

14. Willful misrepresentation in treatment;
15. Practicing medicine with an unlicensed physician, except in an accredited preceptorship or residency training program, or aiding or abetting such unlicensed persons in the practice of medicine;
16. Gross and willful and continued overcharging for professional services, including filing of false statements for collection of fees for which services are not rendered;
17. Offering, undertaking, or agreeing to cure or treat disease by secret method, procedure, treatment, or medicine;
18. Professional, physical, or mental incompetency.

The system for dealing with physicians demonstrating unprofessional conduct, whether sick or not, is dependent upon close working relationships between the Commission on Medical Discipline and the state and local medical societies. While the Commission alone is empowered to render a judgment against a doctor which can result in revocation, suspension, probation or reprimand, in every case a medical society committee must investigate the problem first and render a report to the Commission. This report is necessary to the Commission's decision as to whether to hold a formal hearing, and the report carries a great deal of weight in the Commission's rendering a decision.

The Commission sees its role as one of protection, not punishment. It attempts to protect all citizens of the state, including physicians. Where possible, the Commission secures treatment for the sick doctor and attempts to rehabilitate him. The professionally-incompetent doctor is referred for further educational programs and, where necessary, his practice is supervised. The doctor who could be tempted is placed in institutional practice. It is not necessary to revoke numerous licenses to set examples; it is the threat that makes some comply and others retire. Only in a few cases does it become necessary for the Commission to actually revoke or suspend licenses. Actually, most cases do not come to the Commission's attention, but are settled on the local level.

Immunization Schedule

(Continued from page 189)

1. DTP—diphtheria and tetanus toxoids combined with pertussis vaccine.
2. TOPV—trivalent oral poliovirus vaccine.
3. May be given at 1 year as measles-rubella or measles-mumps-rubella combined vaccines.
4. Frequency of repeated tuberculin tests depends on risk of exposure of the child and on the prevalence of tuberculosis in the population group. The initial test should be at the time of or preceding the measles immunization. Do not give the tuberculin test within 30 days after giving the measles vaccine.
5. Td—combined tetanus and diphtheria toxoids (adult type) for those more than 6 years of age. Tetanus toxoid at time of injury: For clean, minor wounds, no booster dose is needed by a fully immunized child unless more than 10 years have elapsed since the last dose. For contaminated wounds, a booster dose should be given if more than 5 years have elapsed since the last dose.

An acute febrile illness is reason to defer immunization until the subsequent visit or until an infection is properly controlled. Minor infections not associated with febrile reactions, such as the common cold, are not contraindications. Interruption of the recommended schedule, with a delay between doses, does not interfere with the final immunity achieved; nor does it necessitate starting the series over again, regardless of the length of time elapsed.

A number of immunizing agents are not recommended for ordinary use, but their use may be highly advantageous under unusual circumstances. Examples include smallpox vaccine for foreign travel or for hospital personnel, diphtheria toxoid during an outbreak, influenza virus vaccine for infants and children at high risk, and BCG for infants possibly exposed to tuberculosis.

William Nice, M.D., Chairman
School Health Committee

AMA's DRUG EVALUATION BOOK

The third edition of *AMA Drug Evaluations,* the American Medical Association's compendium of information about drugs for the physician, will be off the press this spring.

The third edition has been completely revised, updated and expanded. It contains more than 1,300 pages of essential data for today's drug-prescribing or dispensing physician. It evaluates most available drugs and compounds and recommends dosage ranges. Included are generic and proprietary names, structural formulas, indications, contraindications, and adverse reactions.

The third edition is a joint scientific effort of the AMA Department of Drugs plus a number of outside contributors. Text was subjected to critical review by several hundred clinical consultants and by an expert panel of 60 recognized authorities appointed by the American Society for Clinical Pharmacology and Therapeutics.

The 87 chapters of the book have been completely updated and reorganized in the third edition. Included are evaluations of 61 new drugs and dosage forms and expanded information on some drugs that are under study but not yet on the market. Information is included on timed-release preparations, labeling, use of drugs in pregnancy, prescribing controlled psychotropic drugs, and interactions. More than 700 diagrams, 20 tables, two indexes, and an appendix on drug interference with laboratory tests are included.

The third edition follows the pattern of earlier editions in being organized into chapters and sections that are based on therapeutic classifications. Each chapter contains an introductory statement that discusses the overall therapeutic category, followed by separate monographs for individual drugs in the class.

The inclusion of a particular drug in AMA Drug Evaluations does *not* imply endorsement by the American Medical Association, and it should not be a criterion for approving the use of that drug in any institution or for any other purpose, the AMA points out.

The purpose of the volume is to provide the medical profession with an evaluation of selected drugs based on the available evidence. The evaluation may be favorable, unfavorable, or a combination of both.

In dealing with different brands of the same drug, the AMA points out that not all brands and generically labeled forms of the same drug are necessarily therapeutically equivalent. Differences in coating, binders, particle size, rate of dissolution, purity of ingredients, and other factors can lead to variations in absorption and biological availability of a drug. The degree of consistency from batch to batch will depend upon the manufacturer's quality controls.

Prepared by the AMA, the book is published by Publishing Sciences Group, Inc., 545 Great Road, Littleton, MA 01460. It is available directly from the publisher, and not through the AMA.

TV VIOLENCE

AMA President Richard E. Palmer, M.D., has asked the leaders of ten major corporations to review advertising policies that support TV shows containing the most prime time violence. Dr. Palmer also called upon the television networks to reexamine their policies regarding violence. "TV has been quick to raise questions of social responsibility with industries which pollute the air. In my opinion, television through its access to air waves may be creating a more serious problem of air pollution."

"TV violence is a mental health problem and an environmental issue," the AMA president said. "If the programming a child is exposed to consists largely of violent content, then his perceptions of the real world may be significantly distorted and his psychological development may be adversely affected."

According to Dr. Palmer, "the American people should be concerned with the types of values and role models the media is presenting to a vast, youthful audience whose perceptions of society and reality and whose value systems are clearly in early development."

Since June 1976, AMA's concern has focused on the behavioral consequences of TV violence on youth—especially those who are emotionally immature or unstable. "In a broader sense," said Dr. Palmer, "we're interested in the fundamental issue of the child's healthy growth and development, in the context of television serving as a powerful socializing force in a young person's life."

Dr. Palmer pointed out "the physician understands all too well the struggles of the young child to achieve an identity, to establish a well-integrated personality, and to understand the complexities and inconsistencies of the world about him."

Charging that violence is a prevalent theme in American television entertainment, AMA's chief urged each of the ten advertisers "to recognize the medical aspects of your advertising program and consider its impact on society."

"In mass communications, television is unparalleled in its potential for educating and teaching positive lessons and behaviors to our young people. You are in a uniquely influential position in the commercial television enterprise to exercise leadership in realizing that potential."

"Since contacting Sears Roebuck and Company," Dr. Palmer continued, "I have learned that Sears has re-

(Continued on page 208)

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TV Violence

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viewed its corporate policy and will not knowingly place commercials in any programming that contains excessive violence or sanctions antisocial behavior. AMA is gratified with this recent policy move that appears to reflect a deep concern for the health and welfare of American youth."

Dr. Palmer has also sent letters to those corporations sponsoring programs containing the least amount of violence in network prime time television expressing the hope that their current policies would continue. They include: Peter Paul, Inc.; Hallmark Cards, Inc.; Texaco, Inc.; Whirlpool Corporation; Prudential Insurance Company of America; Squibb Corporation (Jean Naté products); Kusan Corporation (Schaper Toys); Green Giant Company; Keebler Company; and Carnation Company (Carnation Dog Foods).

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Natural balance doesn't always come naturally

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■ **Most Widely Prescribed**—Antivert is the most widely prescribed agent for the management of vertigo* associated with diseases affecting the vestibular system such as Menière's disease, labyrinthitis, and vestibular neuronitis.

■ **Relief of Nausea and Vomiting**—Antivert/25 can relieve the nausea and vomiting often associated with vertigo.*

■ **Dosage for Vertigo*** —The usual adult dosage for Antivert/25 is one tablet t.i.d.

BRIEF SUMMARY OF PRESCRIBING INFORMATION

*INDICATIONS. Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:

Effective: Management of nausea and vomiting and dizziness associated with motion sickness.

Possibly Effective: Management of vertigo associated with diseases affecting the vestibular system.

Final classification of the less than effective indications requires further investigation.

CONTRAINDICATIONS. Administration of Antivert (meclizine HCl) during pregnancy or to women who may become pregnant is contraindicated in view of the teratogenic effect of the drug in rats.

The administration of meclizine to pregnant rats during the 12-15 day of gestation has produced cleft palate in the offspring. Limited studies using doses of over 100 mg./kg./day in rabbits and 10 mg./kg./day in pigs and monkeys did not show cleft palate. Congeners of meclizine have caused cleft palate in species other than the rat.

Meclizine HCl is contraindicated in individuals who have shown a previous hypersensitivity to it.

WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Usage in Children: Clinical studies establishing safety and effectiveness in children have not been done; therefore, usage is not recommended in the pediatric age group.

Usage in Pregnancy: See "Contraindications."

ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

More detailed professional information available on request.

ROERIG Pfizer
A division of Pfizer Pharmaceuticals
New York, New York 10017

Antivert®/25
(meclizine HCl) 25 mg. Tablets
for vertigo*

DYAZIDE®

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Each capsule contains 50 mg. of Dyrenium® (triamterene, SK&F Co.) and 25 mg. of hydrochlorothiazide.

MAKES SENSE FOR LONG-TERM CONTROL OF HYPERTENSION*

Before prescribing, see complete prescribing information in SK&F Co. literature or PDR. A brief summary follows:

* WARNING
This fixed combination drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual patient. If the fixed combination represents the dosage so determined, its use may be more convenient in patient management. The treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

* **Indications:** When the fixed combination represents the dosage determined by titration: Adjunctive therapy in edema associated with congestive heart failure, hepatic cirrhosis, the nephrotic syndrome. Corticosteroid and estrogen-induced edema, idiopathic edema; hypertension, when the potassium-sparing action of its 'Dyrenium' component is warranted.

Contraindications: Further use in progressive renal or hepatic dysfunction; hyperkalemia. Preexisting elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs. Routine use of diuretics in otherwise healthy pregnancy.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in severely ill patients with urine volume less than one liter/day, the elderly or diabetics, with suspected or confirmed renal insufficiency. Periodic determinations of serum K^+ should be made. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **The presence of a widened QRS complex or arrhythmia in association with hyperkalemia requires prompt additional therapy.** Thiazides are reported to cross the placental barrier and appear in breast milk; fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and other adverse reactions that have occurred in the adult may result. When used in pregnancy or in women who might bear children, weigh potential benefits against possible hazards to fetus. Adequate information on use in children is not available.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics, or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spironolactone is used concomitantly, determine serum K^+ frequently; both can cause K^+ retention and elevated serum K^+. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving Dyrenium® (triamterene, SK&F Co.), and leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with thiazides. Do periodic blood studies in cirrhotics to check for nondrug-related variations in blood pictures, and in patients with folic acid depletion, since 'Dyrenium' may contribute to appearance of megaloblastosis. Antihypertensive effect may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

Supplied: Bottles of 100 and 1000 capsules; Single Unit Packages of 100 (intended for institutional use only).

SK&F CO., Carolina, P.R. 00630
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NOTE: See following page for full prescribing information.

AN IMPORTANT NOTE:
It has not been established whether the drug-induced lowering of serum cholesterol or lipid levels has a detrimental, beneficial, or no effect on the morbidity or mortality due to atherosclerosis or coronary heart disease. Several years will be required before current investigations will yield an answer to this question.

FLINT LABORATORIES
DIVISION OF TRAVENOL LABORATORIES, INC.
Deerfield, Illinois 60015

Choloxin® (Sodium Dextrothyroxine)

Effectively Lowers Elevated Cholesterol With Convenient Once-A-Day Dosage

Four strengths 1, 2, 4, and 6 mg are available making the scored tablet regimen a flexible dosage system. And, for most patients, CHOLOXIN tablets offer once-a-day dosage

CHOLOXIN® (sodium dextrothyroxine) Single-Tablet-A-Day Dosage Schedules

See prescribing information in package insert reproduced below.

	Starting Dosage	Increased Monthly by	Usual Maintenance	Maximal Recommended
Adult Hypercholesterolemic	1.0-2.0 mg.	1.0-2.0 mg.	4.0-8.0 mg.	4.0-8.0 mg.
Pediatric Hypercholesterolemic	0.05 mg./kg. body weight	0.05 mg./kg.	0.1 mg./kg. body weight	4.0 mg.
Hypothyroid Cardiac	1.0 mg.	1.0 mg.	4.0 mg.	4.0 mg.

Choloxin®
(Sodium Dextrothyroxine)

Description

CHOLOXIN (sodium dextrothyroxine) is the sodium salt of the dextrorotatory isomer of thyroxine. It is chemically described as D-3,5,3′,5′-tetraiodothyronine sodium salt.

Actions

The predominant effect of CHOLOXIN (sodium dextrothyroxine) is the reduction of serum cholesterol levels in hyperlipidemic patients. Beta lipoprotein and triglyceride fractions may also be reduced from previously elevated levels.

Most of the available evidence indicates that CHOLOXIN (sodium dextrothyroxine) stimulates the liver to increase catabolism and excretion of cholesterol and its degradation products via the biliary route into the feces. Cholesterol synthesis is not inhibited and abnormal metabolic end-products do not accumulate in the blood.

Indications

This is not an innocuous drug. Strict attention should be paid to the indications and contraindications.

CHOLOXIN (sodium dextrothyroxine) is an antilipidemic agent used as an adjunct to diet and other measures for the reduction of elevated serum cholesterol (low density lipoproteins) in euthyroid patients with no known evidence of organic heart disease.

The drug is also indicated in the treatment of hypothyroidism in patients with cardiac disease who cannot tolerate other types of thyroid medication.

Before prescribing, note the following: Results from a randomized clinical study have indicated a possible adverse effect when CHOLOXIN (sodium dextrothyroxine) is administered to a patient receiving a digitalis preparation. There may be an additive effect. This additive effect may possibly stimulate the myocardium excessively, in patients with significant myocardial impairment. CHOLOXIN (sodium dextrothyroxine) dosage should not exceed 4 mg per day when the patient is receiving a digitalis preparation concomitantly. Careful monitoring of the total effect of both drugs is important.

It has not been established whether the drug-induced lowering of serum cholesterol or lipid levels has a detrimental, beneficial, or no effect on the morbidity or mortality due to atherosclerosis or coronary heart disease. Several years will be required before current investigations will yield an answer to this question.

Contraindications

The administration of CHOLOXIN (sodium dextrothyroxine) to euthyroid patients with one or more of the following conditions is contraindicated:

1. Known organic heart disease, including angina pectoris; history of myocardial infarction; cardiac arrhythmia or tachycardia, either active or in patients with demonstrated propensity for arrhythmias; rheumatic heart disease; history of congestive heart failure; and decompensated or borderline compensated cardiac status.
2. Hypertensive states (other than mild, labile systolic hypertension).
3. Advanced liver or kidney disease.
4. Pregnancy.
5. Nursing mothers.
6. History of iodism.

Warnings

CHOLOXIN (sodium dextrothyroxine) may potentiate the effects of anticoagulants on prothrombin time. Reductions of anticoagulant dosage by as much as 30% have been required in some patients. Consequently, the dosage of anticoagulants should be reduced by one-third upon initiation of CHOLOXIN therapy and the dosage subsequently readjusted on the basis of prothrombin time. The prothrombin time of patients receiving anticoagulant therapy concomitantly with CHOLOXIN therapy should be observed as frequently as necessary, but at least weekly, during the first few weeks of treatment.

In the surgical patient, it is wise to consider withdrawal of the drug two weeks prior to surgery if the use of anticoagulants during surgery is contemplated.

When CHOLOXIN (sodium dextrothyroxine) is used as thyroid replacement therapy in hypothyroid patients with concomitant coronary artery disease (especially those with a history of angina pectoris or myocardial infarction) or other cardiac disease, treatment should be initiated with care. Special consideration of the dosage schedule of CHOLOXIN (sodium dextrothyroxine) is required. This drug may increase the oxygen requirements of the myocardium, especially at high dosage levels. Treated subjects with coronary artery disease must be seen at frequent intervals. If aggravation of angina or increased myocardial ischemia, cardiac failure, or clinically significant arrhythmia develops during the treatment of hypothyroid patients, the dosage should be reduced or the drug discontinued.

Special consideration must be given to the dosage of other thyroid medications used concomitantly with CHOLOXIN (sodium dextrothyroxine). As with all thyroactive drugs, hypothyroid patients are more sensitive to a given dose of CHOLOXIN (sodium dextrothyroxine) than euthyroid patients.

Epinephrine injection in patients with coronary artery disease may precipitate an episode of coronary insufficiency. This condition may be enhanced in patients receiving thyroid analogues. These phenomena should be kept in mind when catecholamine injections are required in sodium dextrothyroxine-treated patients with coronary artery disease.

Since the possibility of precipitating cardiac arrhythmias during surgery may be greater in patients treated with thyroid hormones, it may be wise to discontinue CHOLOXIN (sodium dextrothyroxine) in euthyroid patients at least two weeks prior to an elective operation. During emergency surgery in euthyroid patients, and in surgery in hypothyroid patients in whom it may not be advisable or possible to withdraw therapy, the patients should be carefully observed.

There are reports that sodium dextrothyroxine in diabetic patients is capable of increasing blood sugar levels with a resultant increase in requirements of insulin or oral hypoglycemic agents. Special attention should be paid to parameters necessary for good control of the diabetic state in dextrothyroxine-treated subjects and to dosage requirements of insulin or other antidiabetic drugs. If sodium dextrothyroxine is later withdrawn from patients who had required an increase of insulin (or oral hypoglycemic agents) dosage during its administration, the dosage of antidiabetic drugs should be reduced and adjusted to maintain good control of the diabetic state.

When either or both impaired liver or kidney function are present, the advantages of CHOLOXIN (sodium dextrothyroxine) therapy must be weighed against the possibility of deleterious results.

Usage in Women of Childbearing Age

Women of childbearing age with familial hypercholesterolemia or hyperlipemia should not be deprived of the use of this drug; it can be given to those patients exercising strict birth control procedures. Since pregnancy may occur despite the use of birth control procedures, administration of CHOLOXIN (sodium dextrothyroxine) to women of this age group should be undertaken only after weighing the possible risk to the fetus against the possible benefits to the mother. Teratogenic studies in two animal species have resulted in no abnormalities in the offspring.

Precautions

It is expected that patients on dextrothyroxine therapy will show greatly increased serum protein-bound-iodine levels. These increased serum PBI values are evidence of absorption and transport of the drug, and should NOT be interpreted as evidence of hypermetabolism; similarly, they may not be used for titrating the effective dose of CHOLOXIN (sodium dextrothyroxine). PBI values in the range of 10 to 25 mcg% in treated patients are common.

If signs or symptoms of iodism develop during CHOLOXIN (sodium dextrothyroxine) therapy, the drug should be discontinued.

A few children with familial hypercholesterolemia have been treated with CHOLOXIN for periods of one year or longer with no adverse effects on growth. However, it is recommended that the drug be continued in patients in this age group only if a significant serum cholesterol-lowering effect is observed.

Adverse Reactions

The side effects attributed to dextrothyroxine therapy are, for the most part, due to increased metabolism, and may be minimized by following the recommended dosage schedule. Adverse effects are least commonly seen in euthyroid patients with no signs or symptoms of organic heart disease; the incidence of adverse effects is increased in hypothyroid patients, and is highest in those patients with organic heart disease superimposed on the hypothyroid state.

In the absence of known organic heart disease, some cardiac changes may be precipitated during sodium dextrothyroxine therapy. In addition to angina pectoris, arrhythmia consisting of extrasystoles, ectopic beats, or supraventricular tachycardia, ECG evidence of ischemic myocardial changes and increase in heart size have been observed. Myocardial infarctions, both fatal and non-fatal, have occurred, but these are not unexpected in untreated patients in the age groups studied. It is not known whether any of these infarcts were drug related.

Changes in clinical status that may be related to the metabolic action of the drug include the development of insomnia, nervousness, palpitations, tremors, loss of weight, lid lag, sweating, flushing, hyperthermia, hair loss, diuresis, and menstrual irregularities. Gastrointestinal complaints during therapy have included dyspepsia, nausea and vomiting, constipation, diarrhea, and decrease in appetite.

Other side effects reported to be associated with CHOLOXIN (sodium dextrothyroxine) therapy include the development of headache, changes in libido (increase or decrease), hoarseness, tinnitus, dizziness, peripheral edema, malaise, tiredness, visual disturbances, psychic changes, paresthesia, muscle pain, and various bizarre subjective complaints. Skin rashes, including a few which appeared to be due to iodism, and itching have been attributed to dextrothyroxine by some investigators. Gallstones have been discovered in occasional dextrothyroxine-treated patients and cholestatic jaundice has occurred in one patient, although its relationship to CHOLOXIN therapy was not established.

In several instances, the previously existing conditions of the patient appeared to continue or progress during the administration of CHOLOXIN (sodium dextrothyroxine); a worsening of peripheral vascular disease, sensorium, exophthalmos, and retinopathy have been reported.

CHOLOXIN (sodium dextrothyroxine) potentiates the effects of anticoagulants, such as warfarin or Dicumarol, on prothrombin time, thus indicating a decrease in the dosage requirements of the anticoagulants. On the other hand, dosage requirements of antidiabetic drugs have been reported to be increased during dextrothyroxine therapy (see WARNINGS section).

Dosage and Administration

For **adult** euthyroid hypercholesterolemic patients, the recommended maintenance dose of CHOLOXIN (sodium dextrothyroxine) is 4 to 8 mg per day. The initial daily dose should be 1 to 2 mg to be increased in 1 to 2 mg increments at intervals of not less than one month to a maximum level of 4 to 8 mg daily, if that dosage level is indicated to effect the desired lowering of serum cholesterol.

When used as partial or complete substitution therapy for levothyroxine in hypothyroid patients with cardiac disease who cannot tolerate other types of thyroid medication, the initial daily dose should be 1 mg to be increased in 1 mg increments at intervals of not less than one month to a maximum level of 4 to 8 mg daily, preferably the lower dosage. The maximum in patients receiving digitalis therapy is 4 mg.

For **pediatric** hypercholesterolemic patients, the recommended maintenance dose of CHOLOXIN (sodium dextrothyroxine) is approximately 0.1 mg (100 mcg) per kilogram. The initial daily dosage should be approximately 0.05 mg (50 mcg) per kilogram to be increased in up to 0.05 mg (50 mcg) per kilogram increments at monthly intervals. The recommended maximal dose is 4 mg daily, if that dosage is indicated to effect the desired lowering of serum cholesterol.

If new signs or symptoms of cardiac disease develop during the treatment period, the drug should be withdrawn.

How Supplied

CHOLOXIN (sodium dextrothyroxine) is supplied in prescription packages of scored 1, 2, 4, and 6 mg tablets.

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THE Journal of the Kansas Medical Society

MAY
1977

VOL. LXXVIII
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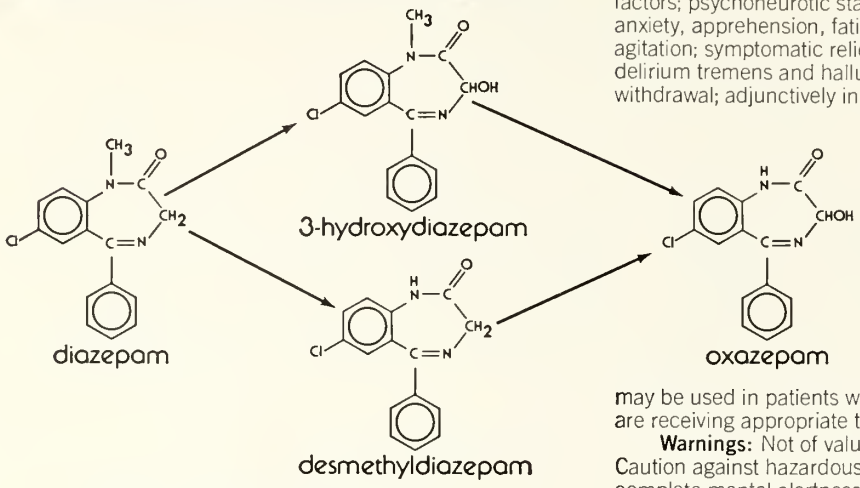
A pharmacokinetic character all its own



Valium (diazepam) is a benzodiazepine with a distinctive pharmacokinetic profile

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Pharmacokinetic studies also demonstrate that Valium has a pattern of absorption, distribution, metabolism and elimination that is reliable and consistent. And, although the pharmacokinetics of a drug cannot, at present, be specifically related to its clinical effects, it is clearly a factor that distinguishes one product from another by providing important insights into how each moves through the patient's body.

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Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome; convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

Usage in Pregnancy: **Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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IMMUNIZATION SCHEDULE

RECOMMENDED SCHEDULE FOR ACTIVE IMMUNIZATION OF NORMAL INFANTS AND CHILDREN

2 mos	DTP[1]	TOPV[2]
4 mos	DTP	TOPV
6 mos	DTP	TOPV
1 yr	Tuberculin Test[3]	
15 mos*	Measles, Mumps, Rubella	
1½ yr	DTP	TOPV
5 yrs	DT	TOPV
14-16 yrs	Td[4] and thereafter every 10 years	

1. DTP—diphtheria and tetanus toxoids combined with pertussis vaccine.

2. TOPV—trivalent oral poliovirus vaccine.

3. Frequency of repeated tuberculin tests depends on risk of exposure of the child and on the prevalence of tuberculosis in the population group. The initial test should be at the time of or preceding the measles immunization. Do not give the tuberculin test within 30 days after giving the measles vaccine.

4. Td—combined tetanus and diphtheria toxoids (adult type) for those more than 6 years of age. Tetanus toxoid at time of injury: For clean, minor wounds, no booster dose is needed by a fully immunized child unless more than 10 years have elapsed since the last dose. For contaminated wounds, a booster dose should be given if more than 5 years have elapsed since the last dose.

* Should there be an epidemic in the area, or should contact be unavoidable but previously expected, immunization with MMR vaccine can be accomplished anytime from the 6th month through the first year of life; but, probably, should be repeated after 15 months of age.

The School Health Committee of the Kansas Medical Society has been requested to list an immunization schedule. An apology is in order for a misunderstanding which occurred in the report appearing last month. For your convenience, a corrected updated schedule is printed at left.

An acute febrile illness is reason to defer immunization until the subsequent visit or until an infection is properly controlled. Minor infections not associated with febrile reactions, such as the common cold, are not contraindications. Interruption of the recommended schedule, with a delay between doses, does not interfere with the final immunity achieved; nor does it necessitate starting the series over again, regardless of the length of time elapsed.

A number of immunizing agents are not recommended for ordinary use, but their use may be highly advantageous under unusual circumstances. Examples include smallpox vaccine for foreign travel or for hospital personnel, diphtheria toxoid during an outbreak, influenza virus vaccine for infants and children at high risk, and BCG for infants possibly exposed to tuberculosis.

William Nice, M.D., Chairman
School Health Committee

Volume LXXVIII, Number 5—May, 1977

The JOURNAL of the KANSAS MEDICAL SOCIETY

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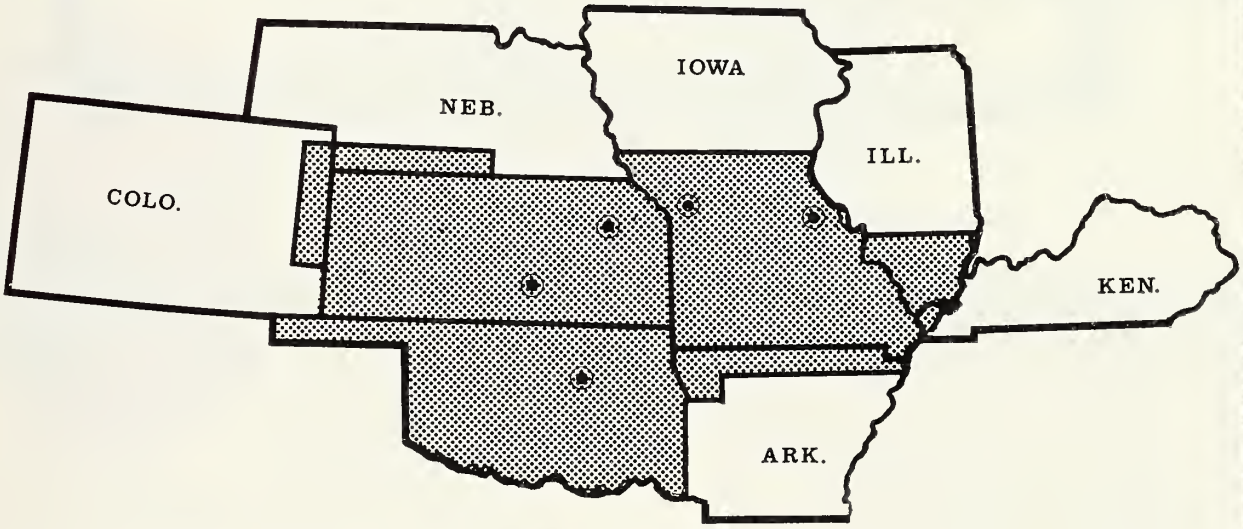

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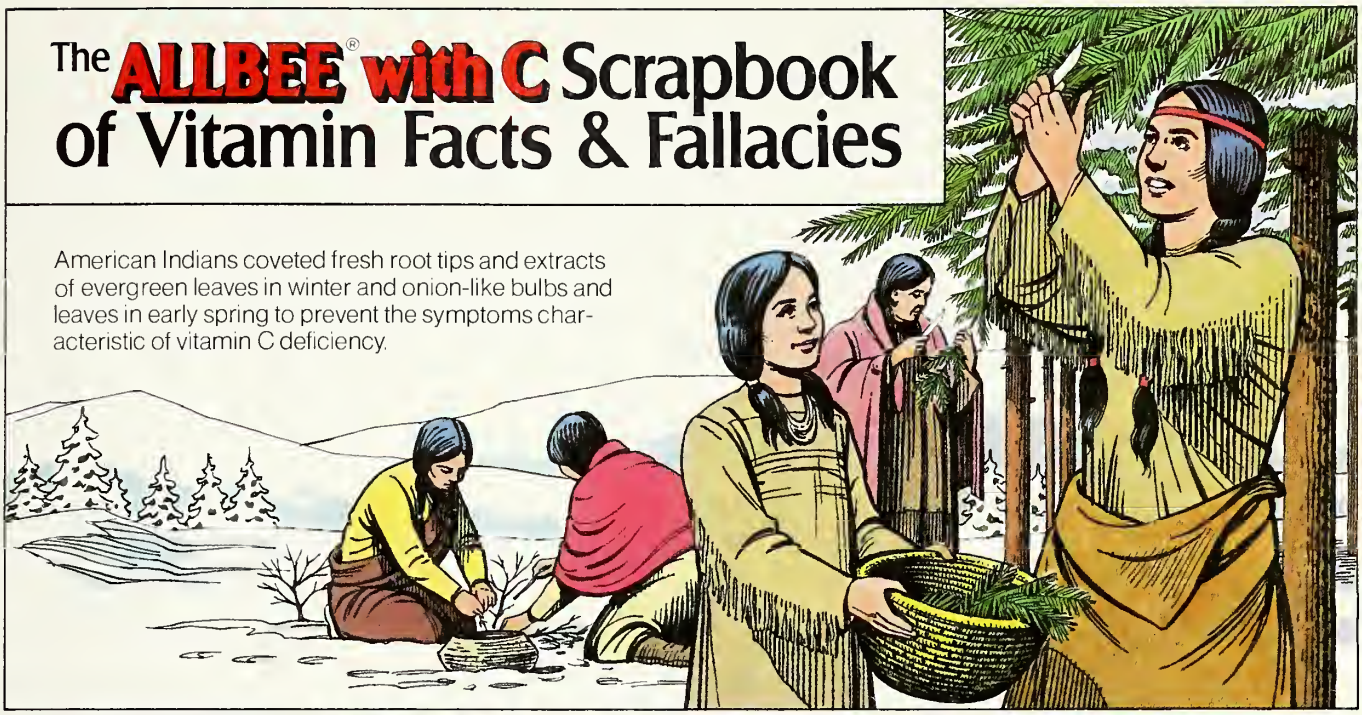
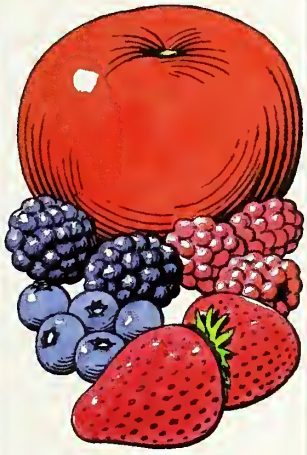
The ALLBEE® with C Scrapbook of Vitamin Facts & Fallacies

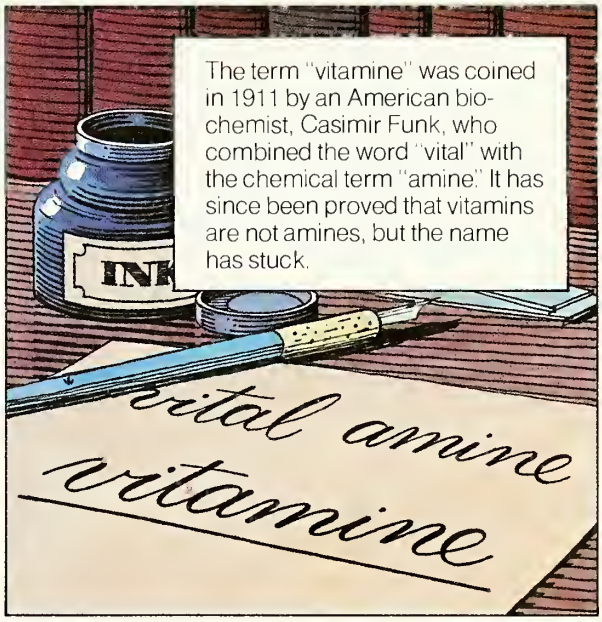
American Indians coveted fresh root tips and extracts of evergreen leaves in winter and onion-like bulbs and leaves in early spring to prevent the symptoms characteristic of vitamin C deficiency.



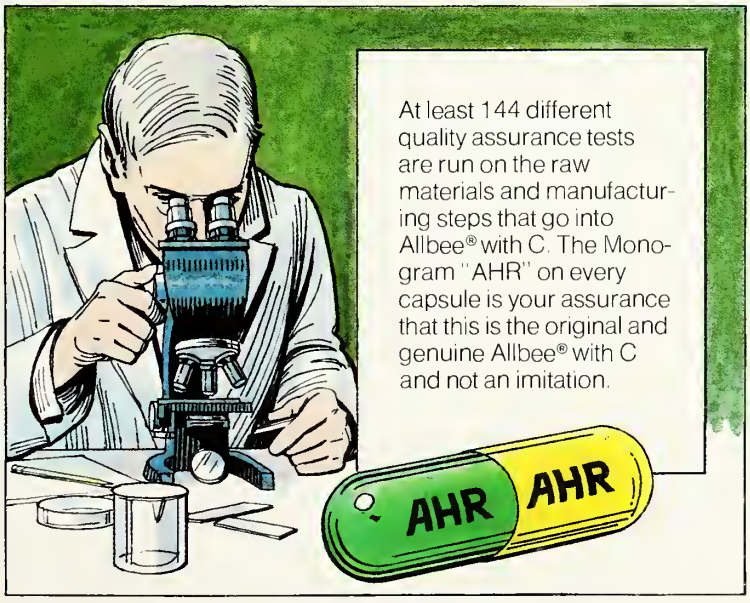


A tomato is botanically classified as a berry!

It is ironic that many of the vegetables highest in vitamin C and riboflavin are considered unappetizing by many people. These include turnip greens, kale, chard, mustard greens, spinach, water cress, broccoli and brussels sprouts.



The term "vitamine" was coined in 1911 by an American biochemist, Casimir Funk, who combined the word "vital" with the chemical term "amine." It has since been proved that vitamins are not amines, but the name has stuck.



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Atropine sulfate	0.0194 mg	0.0194 mg
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Indications: Based on a review of this drug by the NAS/NRC and/or other information, FDA has classified the following indications as possibly effective: adjunctive therapy in the treatment of peptic ulcer; the treatment of the irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis. Final classification of the less-than-effective indications requires further investigation.

Brief summary. Contraindicated in patients with glaucoma, renal or hepatic disease, obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy) or a hypersensitivity to any of the ingredients. Blurred vision, dry mouth, difficult urination, and flushing or dryness of the skin may occur at higher dosage levels, rarely at the usual dosage..

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■ **Dosage for Vertigo***—The usual adult dosage for Antivert/25 is one tablet t.i.d.

BRIEF SUMMARY OF PRESCRIBING INFORMATION

*INDICATIONS. Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:

Effective: Management of nausea and vomiting and dizziness associated with motion sickness.

Possibly Effective: Management of vertigo associated with diseases affecting the vestibular system.

Final classification of the less than effective indications requires further investigation.

CONTRAINDICATIONS. Administration of Antivert (meclizine HCl) during pregnancy or to women who may become pregnant is contraindicated in view of the teratogenic effect of the drug in rats.

The administration of meclizine to pregnant rats during the 12-15 day of gestation has produced cleft palate in the offspring. Limited studies using doses of over 100 mg./kg./day in rabbits and 10 mg./kg./day in pigs and monkeys did not show cleft palate. Congeners of meclizine have caused cleft palate in species other than the rat.

Meclizine HCl is contraindicated in individuals who have shown a previous hypersensitivity to it.

WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Usage in Children: Clinical studies establishing safety and effectiveness in children have not been done, therefore, usage is not recommended in the pediatric age group.

Usage in Pregnancy: See "Contraindications."

ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

More detailed professional information available on request.

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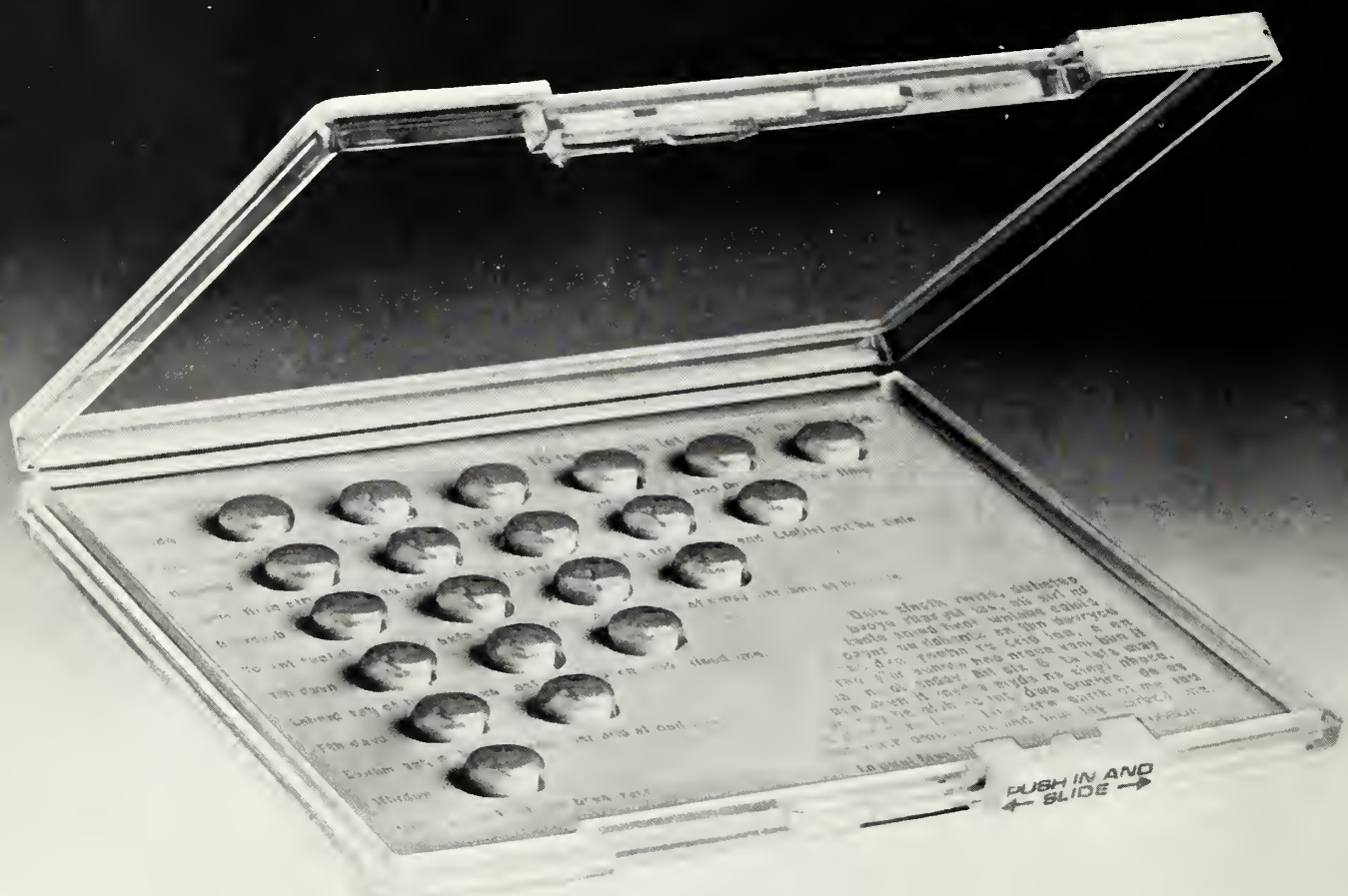

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Month in Washington

A bill aimed at rooting out fraud and abuse in federal health programs has started down the legislative path in Congress. The AMA applauded the objective, but said the bill is so broadly drawn that it allows investigation of "the actions of almost every practicing physician in the United States."

The minority of physicians who abuse Medicare and Medicaid should be brought to justice, the AMA said, but "justice is not served if all practitioners are subjected to harrassment and restraint so that a few malefactors may be apprehended."

Edgar T. Beddingfield, M.D., Chairman of the AMA's Council on Legislation, testified before an unusual joint hearing by the health subcommittees of the House Ways and Means and House Commerce Committees. Ways and Means is responsible for Medicare; Commerce, for Medicaid.

To the extent that the legislation was aimed at the "Medicaid mill" it has "far exceeded the mark," said Dr. Beddingfield. "Since this bill has been characterized as the 'Medicaid mill' Fraud and Abuse Bill, practically all group practices could be stigmatized because of the broad application of its provisions."

The broad approach of the bill is "aimed at a large proportion of all practicing physicians, casting its stigma of impropriety upon the tens of thousands of physicians who fall within its purview," the AMA witness said. "Virtually all group practices in the United States would be subjected to the same requirements as the so-called 'Medicaid mill.' "

All groups of two or more practitioners would be subject to the extensive disclosure-of-records provisions, Dr. Beddingfield noted, adding that all practicing physicians who render Medicare and Medicaid services would be subject to review by Professional Standards Review Organizations (PSRO).

To counter charges that his Department has been lax in cracking down on fraud and abuse in health programs, HEW Secretary Califano has called in the FBI.

He said FBI agents will work "full blast" on Medicare and Medicaid misdoings until HEW's own office of investigations is "up to full speed."

Califano made the statements following a report by the Senate Special Committee on Aging contending that illegal kickbacks are "rampant" in the Medicaid program. Summarizing testimony given the Committee last year, the report said nursing homes are the chief offenders, but "increasing evidence points to hospitals, medical practitioners, clinical laboratories and other suppliers."

Not making Califano's life any easier was an allegation by John Walsh, former director of HEW's Office of Investigations, that the new HEW Secretary and his Under-Secretary Designate, Hale Champion, tried to impede an investigation of fraud in a San Jose, California, Medicaid project. Walsh, who resigned his post, said he was told he had to clear the investigation with his superiors. Califano and Champion angrily denied they were in any way attempting to influence the course of the probe.

The weight of scientific evidence points to a relationship between television violence and increased aggressive behavior in some youthful viewers, the AMA has told Congress.

The AMA called on the TV industry to recognize its social responsibilities, to reduce the amount of violence, and to respond with greater sensitivity and diversity in its programming policies. "That television violence represents a serious issue in the mind of the public is a consideration the broadcasting industry can no longer ignore," declared Robert Stubblefield, M.D., consultant on mental health matters to the AMA.

Testifying before the House Commerce Subcommittee on Communications, Dr. Stubblefield said "television could teach many positive lessons and behavior that would provide alternatives to the violent and anti-social problem-solving so often conveyed in today's programming."

Violence now is a prevalent theme on TV, said the AMA spokesman. He noted earlier testimony of George Gerbmer, Ph.D., that there was more violence during the fall season programming than at any other time in the past decade.

Said Dr. Stubblefield: "These results are especially alarming since just three years ago network executives assured another Congressional subcommittee that efforts were well under way to reduce the amount of gratuitous violence."

The AMA believes that the television medium "has not even begun to realize its potential" in "prosocial programming," he said.

"In my opinion," Stubblefield added, "the television industry cannot have it both ways—claiming that they

(Continued on page 215)

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SUSTAINED ACTION

Each 5 ml teaspoonful contains 32.5 mg theophylline, 6 mg ephedrine HCl, and 2 mg phenobarbital, the alcohol content is 15%.

See next page for brief summary.

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Tedral Elixir: each 5 ml teaspoonful contains 32.5 mg theophylline, 6 mg ephedrine hydrochloride, and 2 mg phenobarbital; the alcohol content is 15%.

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Tedral Elixir is convenient for persons who may have difficulty in swallowing tablets.

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Contraindications. Sensitivity to any of the ingredients; porphyria.

Warnings. Drowsiness may occur. PHENOBARBITAL MAY BE HABIT-FORMING.

Precautions. Use with caution in the presence of cardiovascular disease, severe hypertension, hyperthyroidism, prostatic hypertrophy, or glaucoma.

Adverse Reactions. Mild epigastric distress, palpitation, tremulousness, insomnia, difficulty of micturition, and CNS stimulation have been reported.

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Tedral: *Adults*—One or two tablets every 4 hours. *Children*—(Over 60 lb) one-half the adult dose.

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Tedral SA: Double-layered, uncoated, coral/mottled white tablets in bottles of 100 (N 0047-0231-51) and 1000 (N 0047-0231-60). Also in Unit Dose—package of 10 x 10 strips (N 0047-0231-11).

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Full information is available on request.

Month in Washington

(Continued from page 213)

merely entertain, facilitate abreaction and ventilation of pent-up emotions, yet denying that they shape and influence behavior. Bluntly stated, shaping and influencing behavior that is stimulating the sale of products is precisely one of the major uses of television."

Christopher C. Fordham, M.D., Dean of the University of North Carolina Medical School, is the choice of the Carter Administration as Assistant Secretary for Health at HEW.

The naming of the federal government's top health official had been the subject of much speculation and interest. The selection of the Assistant Secretary for Health (ASH) in a new Administration is considered an important guide to the type of health policies HEW will pursue.

Dr. Fordham, 49, is a board certified internist and a member of the AMA. He received his medical degree from Harvard University Medical School. He is well-known in North Carolina and is regarded generally as a moderate on socio-economic medical issues.

Thomas D. Morris, a member of the senior staff of the Brookings Institution, was named to the newly created post of Inspector General of HEW.

The job was established by Congress last year to oversee a $25-million program, to find fraud and abuse in various HEW programs, especially Medicaid. Morris will have a staff of 1,000 auditors and 100 investigators.

Morris, 63, was Assistant Secretary of Defense in charge of the cost reduction program and procurement operations from 1961 to 1968, and was Assistant Comptroller General from 1970 to 1975. For the past year, he has been a senior staff member of the Brookings Institution in Washington.

Morris will focus initially on the broad area of health-care services, including alleged widespread fraud in the Medicare and Medicaid programs, and the student loan programs.

Morris will be responsible both to the HEW Secretary and to Congress. The importance of the post was underlined by having the announcement of Morris' appointment come from the White House rather than the Secretary's office.

The HEW Department has published final regulations under which Medicare providers may obtain judicial review of any final decision of the Provider Reimburse-

(Continued on page 251)

We've come a long way, baby

Forty years ago, many childhood handicaps went undetected. And many babies, like this one, would have grown up to be "problem children" in school, their undiagnosed handicap preventing them from keeping pace with their classmates or perhaps denying them an education altogether.

But today, most difficult-to-diagnose handicaps can be detected early, often at birth. And once handicaps are detected, new ways of teaching handicapped children promise them a better chance than ever for a public education.

Count Your Kid In is a state-sponsored project whose sole purpose is to help parents help their handicapped children. If one of your patients is a handicapped child, from an infant to an 18-year-old, ask his parents to call us toll-free for help and information. You can call us for information on professionals in your area who perform education-related evaluations for handicapped children.

Count your kid in

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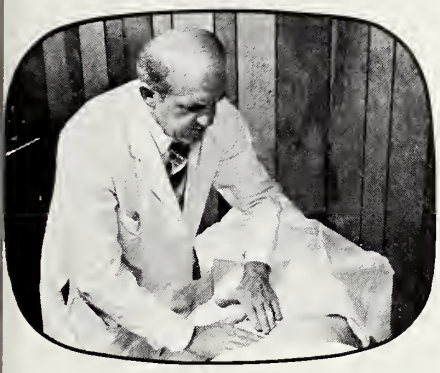

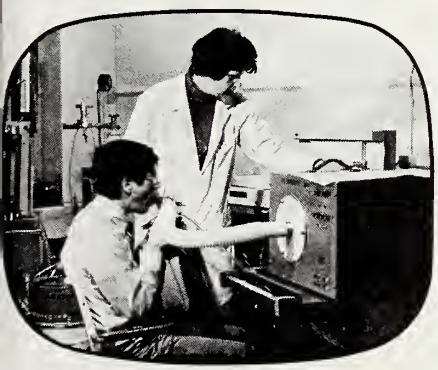

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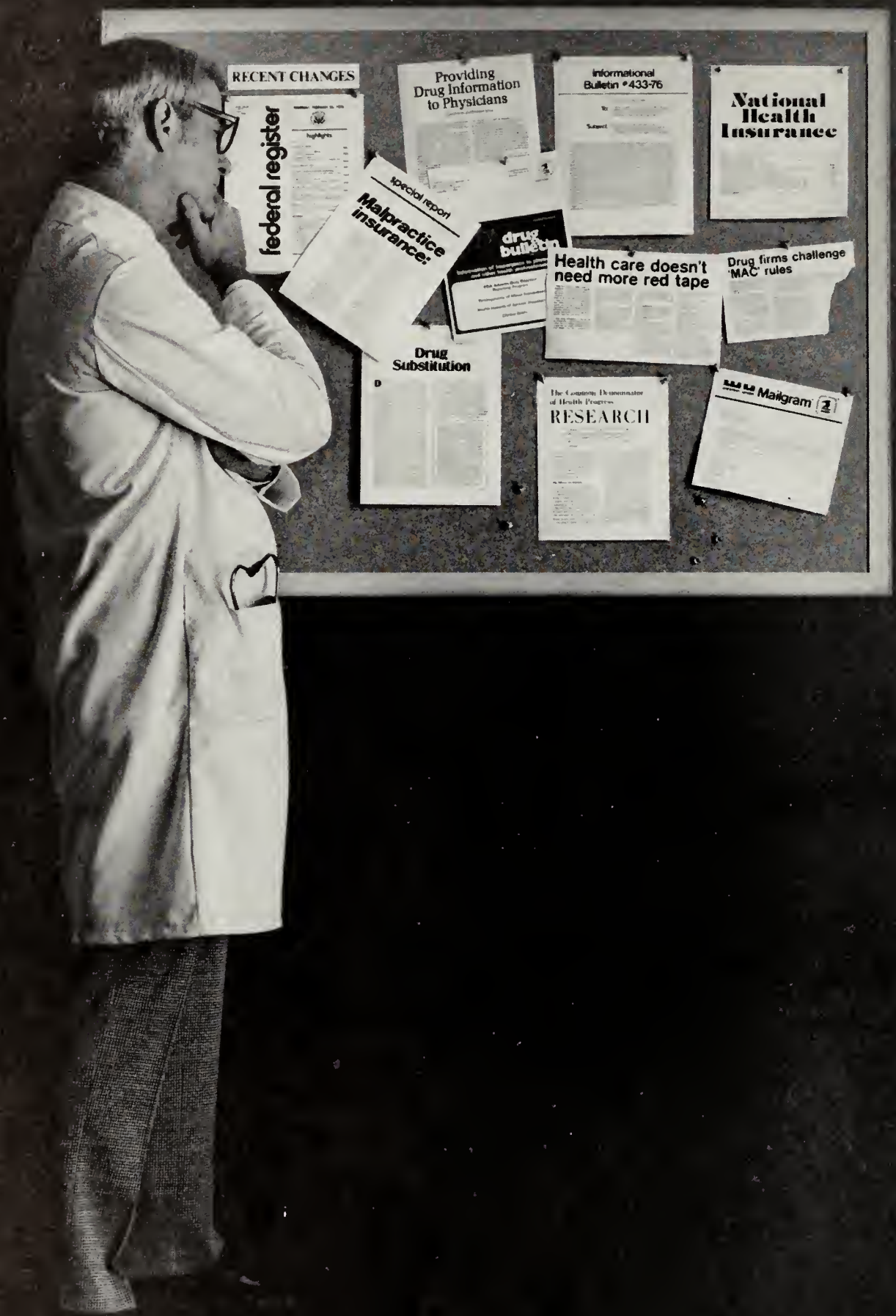
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Providing Drug Information to Physicians
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THERE ARE A LOT OF PEOPLE GETTING BETWEEN YOU AND YOUR PATIENT.

Medicine today is in the spotlight, subjected to all kinds of scrutiny. Your control over patient therapy is being monitored, judged and occasionally abrogated, sometimes by unknown third parties.

The worry is that in the wake of this focus, the relationship between you and your patient will be weakened, without offsetting benefits. Consider three examples:

Drug substitution In most states, pharmacy laws, regulations or professional custom stipulate that your non-generic prescriptions be filled with the precise products you prescribe. But in the last five years, a dozen or more State laws have been changed, permitting the pharmacist in most cases to select a product of the same generic drug to fill any prescription.

Ironically, this dilution of physician control has taken place against a background of growing evidence that purportedly equivalent drug products may be inequivalent, since neither present drug standards nor their enforcement are optimal. In fact, the FDA itself says it has not enforced the same standards for hundreds of "follow-on" products that it had applied to the original NDA approvals. Thus physician control over patient therapy is being eroded with a risk that patients may be exposed to drugs of uncertain quality.

The major advertised claim for substitution is reduced prescription prices for consumers. Yet no documentation of any significant savings has been produced.

MAC Maximum Allowable Cost, MAC for short, is a Federal regulation designed to cut the Government's drug bill by setting price ceilings for drugs dispensed to Medicare and Medicaid patients. Unless the prescriber certifies on the prescription that a particular product is medically necessary, the Government intends to pay only for the cost of the lowest-priced, purportedly-equivalent, generally-available product. The effect of the program may be that elderly and indigent patients will be restricted to products which someone in Washington believes are priced right. Practicing doctors will have little to say about administration of the program, since Government will have absolute authority to make its choices stick.

The drug lag The future of drug and device research depends upon a scientific and regulatory environment that encourages therapeutic innovations. The American pharmaceutical industry annually is spending more than $1 billion of its own funds and evaluating more than 1,200 investigational compounds in clinical research. Disease targets include cancer, atherosclerosis, viruses and central nervous system disorders, among others. But there is a major barrier to the flow of new drugs to your patients: The cost of the research is more than ten times what it was, per product, in 1962; and whereas governmental clearance of new drug applications took six months then, it commonly consumes two years now.

The FDA needs adequate time, of course, to consider data. But it is equally clear that the present approval process contributes to needless delay of needed therapy. That's why the increased efficiency of the drug approval process is vital to all our futures.

If these issues concern you, we suggest that you make your voice heard—among your colleagues and your representatives in State legislatures and in Washington.

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Scientific ARTICLES

Antibody Phenothiazines

Multiple Antibody Screening of Patients Under High Doses

RAMON A. GUILLAN, M.D.,* CHIH-PING YANG, M.D.† *and* E. VIRGINIA HOCKER, M.A.,‡ *Topeka*

CARDIAC COMPLICATIONS causing unexpected death have not yet been eliminated, even though, since the first report in 1963, by Kelly *et al.*,[1] of the fatal ventricular arrhythmia in patients receiving large doses of phenothiazines, many articles have appeared dealing with the possible mechanisms of phenothiazine deaths.[2, 3]

In previous publications,[4, 5] we have shown that severe mitochondrial and myofiber degeneration can occur in both patients and animals receiving high doses of phenothiazine, causing cardiac arrhythmias that can lead to sudden deaths or to irreversible cardiac damage. Thus, it becomes important to ask, is it possible to detect the potential danger and avert the fatal ventricular tachyarrhythmia and serious cardiac damage?

Methods

Our patients were predominantly male, ranging in age 21-46 years, average age 36 years, who had been on long-term phenothiazine-base drugs and who had a negative history for streptococcal or collagen disease. At the time of their last annual physical, 19 of the 44 patients showed EKG abnormalities. Patients selected for the control group were similar with respect to sex, age and medical history, but had not been on phenothiazine-base drug therapy.

Blood was collected from the consenting, preferably fasting, patients. Pre-drug therapy sera were not available from these patients. Sera were harvested and aliquots were stored at 5C for prompt analysis, and –20C for review testing later.

Each fresh serum sample was tested for the presence of auto-antibodies to nuclear (ANA), smooth-muscle (ASMA), mitochondrial (AMA), and heart (AHA) and skeletal muscle (ASTM) components of the cells using the indirect or "sandwich" fluorescent antibody technique. Commercial substrates used were cryostat sections of snap-frozen tissue from rat kidney, stomach, heart and skeletal muscle, human amnion monolayers, rabbit kidney monolayers, and human KB cell monolayers. These were stored at –20C until used as recommended by the suppliers. Commercial fluorescein isothiocyanate tagged anti human globulin, or anti human IgG-IgM, absorbed with acetone-dried homologous liver powder, was diluted according to directions of the suppliers. The F/P ratios ranged 2.9-4.1/1.0. The total protein ranged 4.0-15.0 mg/ml. Positive and negative control sera for antinuclear, mitochondrial, and smooth muscle antibodies were obtained from the suppliers. Control serum was not commercially available for anti-heart antibodies, therefore, this was obtained locally from hospital and outpatients who were recuperating from acute coronary heart disease, open-heart surgery, or had a history of rheumatic heart disease.[6, 7]

Initial dilution of the sera as 1 : 10 was used

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throughout this study in order to eliminate the following possible interferences: (1) the non-specific fluorescence of the tissue (often observed with undiluted sera), and the prozone effect of very concentrated antibodies; (2) the weak positive reactions which may appear in dilutions of 1 : 5 in rheumatoid arthritis and scleroderma[8] in the ANA test; and (3) to obtain the increased sensitivity that will give less than 5% "false positive" results.

Sera were tested simultaneously, before and after absorption with homologous heart tissue. Sera were diluted 1 : 10 in 1 per cent albumin-phosphate buffered saline, pH 7.3, ±0.1, (P-BS). Further doubling dilutions were tested in all sera showing strong fluorescence at 1 : 10 dilution against appropriate substrates. Substrates were thawed, labeled, fixed (if indicated by a manufacturer), rinsed with P-BS, drained, and placed in a moist chamber. The diluted sera and positive, negative, and buffer controls were placed on the appropriately labeled substrates and allowed to react at room temperature for 30 minutes. They were rinsed with a gentle stream of P-BS, directed to the side or above the substrate, and further washed according to manufacturer's directions, drained and replaced in the moist chamber(s). Fluorescein isothiocyanate tagged antibody to human globulin or human IgG-IgM, appropriately diluted, was placed on the moist substrate and again allowed to react for 30 minutes at room temperature. Again the substrates were rinsed, washed, drained, and mounted with neutral glycerine.

Observations of the reactions, rated 0-4+, were made promptly using Leitz fluorescent microscope equipped with phloem illumination (incident light) from an Osram HBO 200 mercury lamp via a 4-mm BG 38 red suppression, 3-mm BG 12 exciter filter, and reflected through 2 KP 490 (KP-500) turret and 1 TK 530 slide suppression filters. A photograph was taken of representative areas of the reactions observed using the Leitz automatic camera. Kodak Plus-X film, ASA 125, developed in D-11 for 6 minutes at 20C and processed routinely was used for black-and-white reproductions. Kodak Ektachrome ER Film 5258 (Tungsten) ASA 125, processed in Kodak Process E4, was used for color reproductions.

Results

Fifty-eight sera, from 44 patients, were tested for

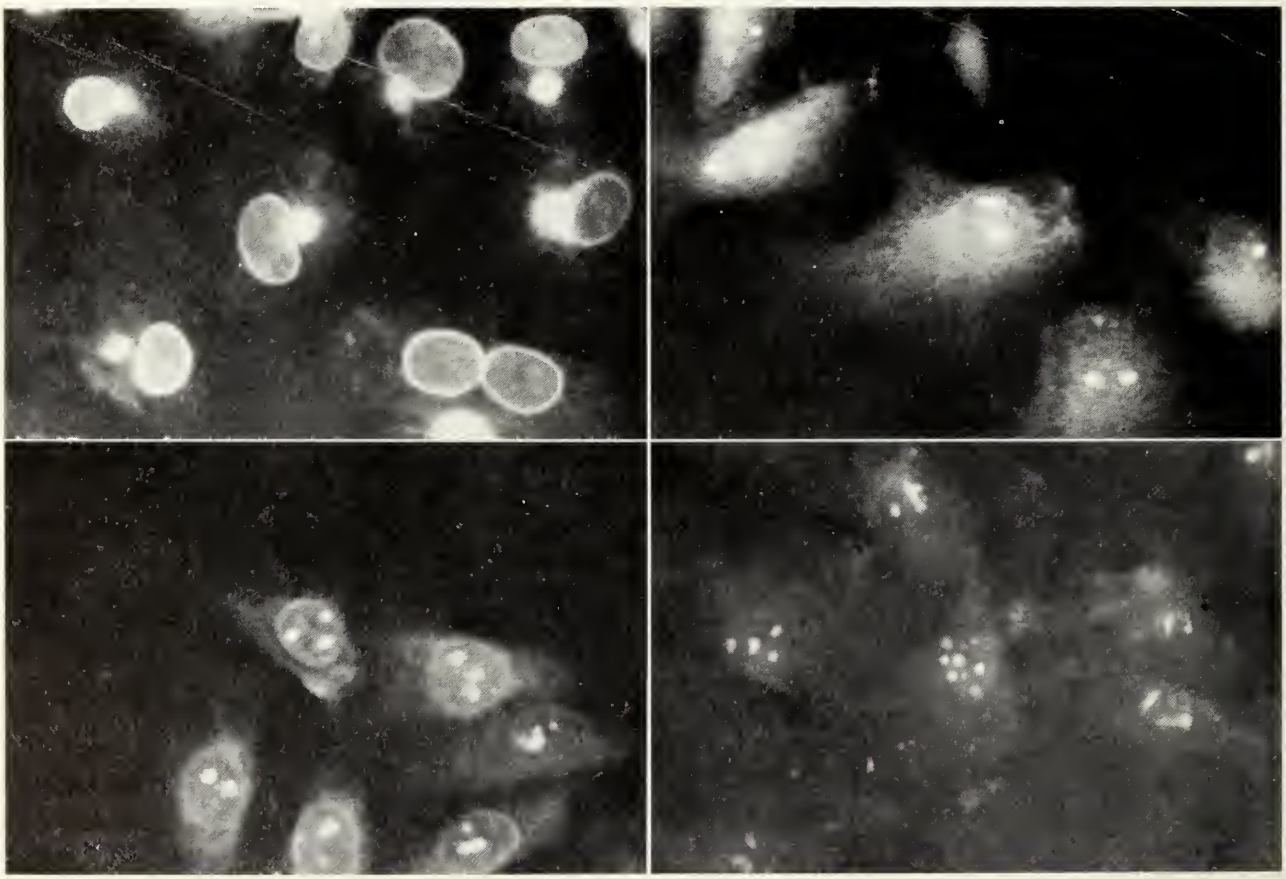

Figure 1. Photomicrographs of immunofluorescent antibody reactions observed: A) ANA peripheral or rim; B) ANA nucleolar; C) ANA nucleolar and rim; D) ANA speckled.

presence of autoantibodies. Using SKF human amnion monolayers, 16 of these patients gave positive results to the ANA tests. Four types of reactions were observed: (1) periphery or rim of the nucleus *(Figure 1-A)*; (2) nucleolar *(Figure 1-B)*; (3) both nucleolar and rim of the nucleus *(Figure 1-C)*; and (4) speckled reaction *(Figure 1-D)*. One serum gave positive rim fluorescence up to and including 1-80 dil. Sera from 12 patients gave positive reactions to the anti-smooth muscle substrates. Thirteen patients gave positive sera reactions to the mitochondria, the patterns using the rabbit kidney monolayers were punctate and diffuse as demonstrated in *Figure 1-E*. Sera of 18 patients gave positive reactions to heart, and 19 to skeletal muscle substrates *(Figures 1-F and 1-G)*, indicating the presence of anti-heart antibodies. Absorption tests removed (or reduced) the antibody reactions.

Repeat sera were tested from 12 of the patients two weeks following the initial test. Results in each case were consistent with the first analysis. Sera from four patients were tested one month later following cessation or change of drug therapy. These sera showed disappearance or diminution of the degree of reactivity of the auto-antibody reactions.

The 20 controls showed negative reactions to multiple auto-antibodies. After storage of 3-10 months, the sera were retested for reactivity to multiple auto-antibodies. The original fluorescence and patterns persisted in 30 of 35 sera. Fluorescence was diminished in three, and negative in two of the 35 sera retested.

Table I lists the pertinent clinical and laboratory findings. All but four patients were under age 40 years (average, 36 years). All the patients studied were on a regimen of phenothiazine-base drug, mostly thorazine, receiving a maximum dose of 4000 mg daily to a minimum of 300 mg daily, for an average medication duration of 18 months. Twenty-one patients showed the presence of one or more circulating antibodies. The most common antibody present was ASTM antibody positive in 19 patients; followed by AHA in 18 patients; ANA, 16; AMA, 13 patients; ASMA, 12.

Nineteen patients revealed EKG abnormalities, consisting of low voltage and inversion of T-wave, ST segment depression, complete right bundle branch block, persistent sinus tachycardia, wandering pacemaker, prolongation of QT interval, and multiple ventricular premature beats with bigeminy *(Figures 2-A, B, C, and D)*.

Chemistry profiles, including liver and thyroid function tests, were normal. The results of physical examinations were normal, except for an occasional patient with persisting tachycardia, extrasystoles, or gallop rhythm.

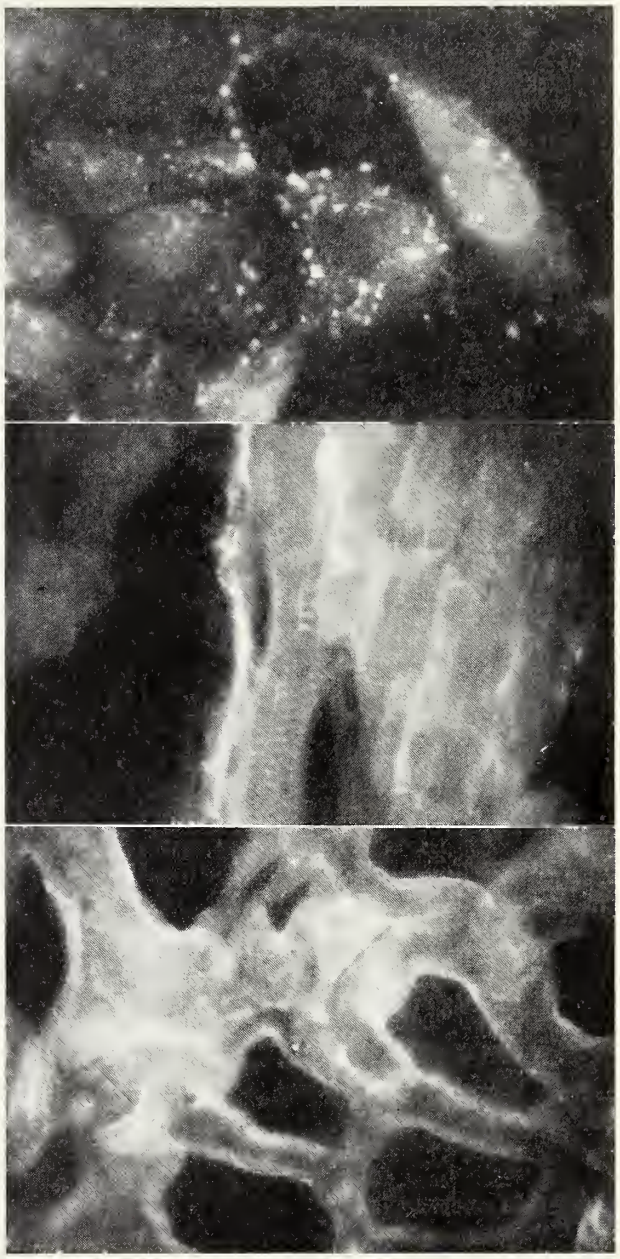

Figure 1. E) AMA; F) AHA; G) ASTM. ×540 original magnification.

Case One

A 38-year-old male, receiving thorazine 800 mg day for one-and-a-half years developed a complete right bundle branch block with marked prolongation of QT intervals. Cardiac auscultation revealed an S_3 left ventricular gallop. Antibody screening showed positive ANA, ASMA, AMA, AHA, and ASTM antibodies. After one month without the drug, the RBBB remained, but the QT intervals returned to normal. Repeat antibody screenings showed disappearance of all antibodies found earlier.

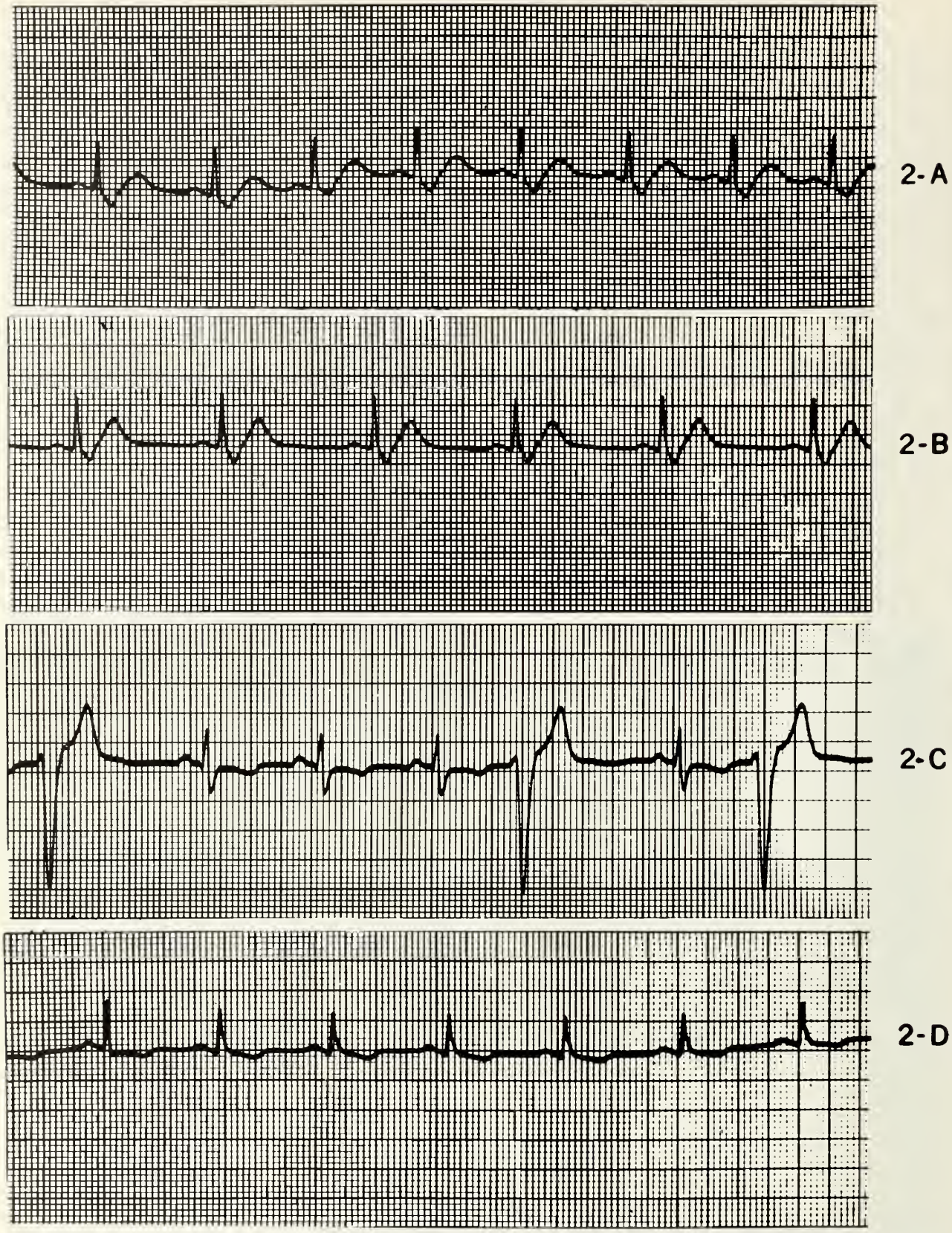

Figure 2. A) On medication: complete right bundle branch block RSR 88/m. QT interval markedly prolonged to 0.48 sec (Normal QTC 0.33 sec); B) One month without medication: complete right bundle branch block RSR 60/m. QT interval 0.40 sec. (Normal QTC 0.40 sec.) Antibody also disappeared; C) On medication: frequent ventricular premature beats with bigeminy. Resistant to procainamide and lidocaine; D) One month without medication: cardiac arrhythmia disappeared and antibody revealed only minimal reactivity.

Case Two

A 43-year-old male, receiving daily doses of thorazine 1000 mg, stelazine 40 mg, and mellaril 100 mg for 18 mos, presented with normal EKG. Initial cardiac auscultation revealed an S_3 gallop. ANA and ASTM antibodies were positive. One month after discontinuation of the drug, the gallop as well as the antibodies disappeared.

Case Three

A 40-year-old female received thorazine 1000 mg and mellaril 200 mg daily for 48 mos. EKG showed sinus tachycardia and S_3 ventricular gallop. Positive ANA, AMA, AHA, and ASTM antibodies were found. One month after discontinuation of the medications, the S_3 ventricular gallop and all four antibodies disappeared. At present, she shows only sinus tachycardia.

Case Four

A 38-year-old male was given thorazine 4000 mg day for the last six years. EKG revealed frequent ventricular premature beats and ventricular bigeminy. Antibody screening revealed positive ANA, ASMA, AMA, AHA, and ASTM antibodies. The ventricular arrhythmia was resistant to large doses of procainamide (5 gm/day) and intravenous lidocaine given by bolus and drip. The arrhythmia disappeared a month after discontinuation of the medication, and the antibody screening revealed minimal reactivity.

Discussion

Since Kelly[1] and his co-workers in 1963 reported T-wave distortion in a patient treated with thioridazine, many reports have been published on the adverse effect of phenothiazines on the heart. Wendkos,[8] in 1964, studied 50 male psychiatric patients taking thioridazine and found that T-wave abnormalities consistently occur when the daily thioridazine dosage exceeded 600 mg, and that the T-wave abnormality could be reversed using isosorbide dinitrate and potassium and ergotamine tartrate. He concluded that thioridazine-induced T-wave abnormality represents a readily reversible benign repolarization disturbance.

Hollister and Kosek,[9] in 1965, reported six cases of sudden death in patients receiving fairly large doses of phenothiazine. The predominant mechanism was postulated to be ventricular fibrillation, although the basis for the cardiac disturbance was unexplained. In 1968, Giles and Modlin[10] reported fatal ventricular tachyarrhythmia in a 19-year-old patient treated with thioridazine. Histopathology revealed necrosis of myocardial fibers with scattered pigment-laden macrophages.

Alexander and Nino[11] reported seven cases of cardiovascular complications in young patients taking psychotropic drugs, presenting either as myocardial infarction with patent coronary arteries or cardiomyopathy with ventricular failure. Alvarez, Mena and Frank,[12] in 1973, found that of 100 psychiatric patients with phenothiazine induced T-wave abnormalities, 57 normalized after overnight fasting, while the remainder were corrected by potassium administration. The mean serum potassium level was significantly higher for the group that normalized with fasting alone. The researchers contended that phenothiazine induced T-wave abnormalities corrected by fasting alone are relatively benign, but those requiring potassium for correction might be potentially more dangerous. Thus, the effect of phenothiazine on the electrocardiogram may be a benign and reversible process as advocated by Wendkos,[8] but at the same time, it has the potential of fatal ventricular tachyarrhythmia.

In our previous publications,[4,5] regarding the mechanism of sudden death in patients receiving high doses of phenothiazine, we contended that severe damage to the heart at the ultrastructural level was probably the basis of cardiac arrhythmia that if severe enough could lead to death. These changes consisted of severe mitochondrial pleomorphism, loosening of myocardial fiber structure, intracytoplasmic edema, and widening of z-band spaces. Similar findings were described by Alexander *et al.*,[11] in a 29-year-old chronic schizophrenic patient who had been taking phenothiazine-base drugs for five years. It has also been shown that in some patients, EKG abnormalities will revert to normal once the offending drug has been discontinued.[8] Based on these findings, we could speculate that the damage to the myocardial fibers may also revert to normal, provided that the offending drug is stopped before the damage has become irreversible. Of special interest is the fact that in four of our patients, most of the EKG abnormalities reverted back to normal and the circulating antibodies either disappeared or showed reduced reactivity.

Multiple antibody screening in the 44 patients tested revealed 48 per cent showing the presence of circulating antibodies. Forty-three per cent of the 44 patients showed EKG abnormalities, of whom 84 per cent had circulating antibodies. The most common antibody present was ASTM (90%), followed by AHA (80%), ANA (76%), AMA (62%), and ASMA (57%).

The finding of persistent low-level antibodies (positive in dilutions of 1 : 10 or greater) in the AMA test in a higher proportion of cases than that reported by Klatskin and Kantor,[13] may be due to the use of cell

CLINICAL AND LABORATORY DATA

	NAME	AGE	MEDICATION & DOSE	DURATION OF MEDICATION	E K G CHANGES	A N A	A S M A	A M A	A H A	A S T M	CLINICAL FINDINGS & LABORATORY RESULTS
1.	O. K.	44	Thorazine 600 mg/day	8 months	Normal	2+ Rim	1+	1+	1+	1+	Normal
2.	L. L.	38	Thorazine 800 mg/day	18 months	R.B.B.B. Q-T Prolongation Marked St-T abnormality	1+ Rim	1+	1+	1+	1+	Ventricular Gallop
3.	J. F.	46	Thorazine 800 mg/day	6 months	ST-T Flattening T wave flattening	1+ Rim	1+	2+	1+	1+	Normal
4.	J. R.	31	Thorazine 400 mg. DAY	14 months	Right Axis Deviation ST Depression V_5V_6	1+ Rim	1+	2+	1+	1+	Normal
5.	J. C.	35	Thorazine 1200 mg/day	14 months	Flattening of T wave	1+ Rim	1+	1+	2+	1+	Normal
6.	O. T.	36	Thorazine 1600 mg/day Stelazine 60 mg. daily	11 months	Flattening of T wave	1+ Rim	Neg.	Neg.	1+	1+	Normal
7.	A. S.	40	Stelazine 30 mg/day	10 months	Low Voltage T wave P.V.C.S. ST Depression	1+ Rim	Neg.	1+	2+	2+	Normal
8.	B. C.	40	Thorazine 1000 mg/day Stelazine 40 mg/day	11 months	Flattening T wave Q-T Interval prolongation	4+ Rim	Neg.	1+	1+	1+	Normal
9.	S. D.	52	Thorazine 1200 mg/day	12 months	Normal	2+ Rim	1+	Neg.	1+	1+	Normal
10.	G. W.	36	Thorazine 600 mg/day	12 months	Sinus Tachycardia	2+ Rim	1+	1+	1+	1+	Normal
11.	W. D.	28	Thorazine 500 mg/day	6 months	Normal	2+ Rim	1+	1+	1+	1+	Normal
12.	S. B.	21	Thorazine 400 mg/day	Not Available	Normal	1+ Rim	1+	Neg.	2+	1+	Normal
13.	R. P.	31	Thorazine 800 mg/day Stelazine 60 mg/day	20 months	Sinus tachycardia Flat T waves	1+ Speckled	Neg.	Neg.	Neg.	Neg.	Normal
14.	R. W.	39	Prolixine 25 mg/day	4 months	Sinus tachycardia Low T waves	Neg.	Neg.	1+	1+	Neg.	Normal
15.	J. S.	28	Thorazine 600 mg/day	4 months	Wandering pacemaker	Neg.	Neg.	Neg.	1+	1+	Normal
16.	L. F.	21	Thorazine 800 mg/day	4 months	Low Voltage	Neg.	Neg.	1+	1+	1+	Normal
17.	J. H.	30	Thorazine 400 mg/day	6 months	T wave flattening to Isoelectric line-sinus Arrhythmia	Neg.	Neg	1+	1+	1+	Normal
18.	H. K.	43	Thorazine 1000 mg/day Stelazine 40 mg/day Mellaril 100 mg/day	18 months	Normal	1+ Rim	Neg.	Neg.	Neg.	1+	Ventricular Gallop
19.	T. V.	40	Thorazine 1000 mg/day Mellaril 200 mg/day	48 months	Persistent Sinus tachycardia	1+	Neg.	1+	2+	2+	Ventricular Gallop
20.	G. Z.	36	Thorazine 4000 mg/day	More than six years	Ventricular Gallop Ventricular premature beat	1+ Rim 2+ Nucleus	1+	2+	1+	1+	Ventricular Gallop Ventricular premature heart beat
21.	A. L.	41	Thorazine 300 mg/day	36 months	Sinus tachycardia Low voltage Non-specific T waves	1+ Rim 2+Nucleus	1+	Neg.	1+	1+	Normal
			Average 957.89 mg/day	18 months							

ANA - Antinuclear Antibodies
ASMA - Anti-smooth Muscle Antibody
AMA - Anti-mitochondrial Antibody
AHA - Anti-heart Antibody
ASTM - Anti-skeletal Muscle Antibody

TABLE I

monolayers as the substrate. This is consistent with findings reported by Doniach and Walker,[14] who observed different patterns and degrees of reaction to AMA in tissue slices and in cell monolayers.

Our findings of low-level antibodies to heart and skeletal muscle is consistent with breakdown of heart tissue, particularly in light of the specificity indicated by the studies of Espinosa and Kaplan,[15] who demonstrated the specificity of antibodies to saline insoluble heart antigens in both heart and skeletal muscle but not in other tissue.

The presence of low-level ANA, primarily with rim and nucleolar reactions, was most strikingly observed in the human amnion monolayers. Although this substrate is difficult to work with, we consider it the substrate of choice for specific and reproducible results. This specificity may be accounted for by the fact that the cell monolayers are actively growing cells and have a higher concentration of antigen.[16] Our findings of different nuclear patterns are consistent with Husain *et al.*,[17] who reported that neither specific patterns nor titers of nuclear fluorescence have proved specific for

any given clinical syndrome. Although auto-antibodies have been reported to become detectable following drug therapy as well as after myocardial infarction,[18, 19] the mechanism of reaction causing the production of auto-antibodies has not been determined.[20] Our finding of persistent low-level auto-antibodies which may be reversed, in a selected cross-section of patients (43% of whom had EKG abnormalities), offers us a patient group to follow in randomized fashion to further explore the mechanism which may be involved. Our question is whether we are seeing an early reaction and relationship which will provide us with indices to watch in patients under high dosages of phenothiazine-base drugs in order to reduce complications and avert "sudden death."

References

1. Kelly, H. G.; Fay, J. E. and Laverty, S. G.: Thioridazine hydrochloride (Mellaril): its effect on the electrocardiogram and a report of two fatalities with electrocardiographic abnormalities. *Cand. Med. Assn. J.* 89:546-554, 1963.
2. Leestma, J. E. and Koenig, K. L.: Sudden death and phenothiazines: current controversy. *Arch. Gen. Psychiat.* 18: 137-148, 1968.
3. Richardson, H. L.; Graupner, K. L. and Richardson, M. E.: Intramyocardial lesions in patients dying suddenly and unexpectedly. *JAMA* 195:254-260, 1966.
4. Guillan, R. A.; Zelman, S. and Reinert, R. E. *et al.:* Electron microscopy. Sudden death in patients under phenothiazine therapy: study of three cases. *J. Kans. Med. Soc.* 71:213-218, 1970.
5. Guillan, R. A.; Smalley, R. L. and Zelman, S.: Electrocardiographic and ultrastructural cardiac effects of phenothiazine in rabbits: a preliminary report. *Chest* 62:62-65, 1972.
6. Zabriskie, J. B.: Mimetic relationships between group A streptococci and mammalian tissues. *Adv. Immunol.* 7:147-188, 1967.
7. Geld, H. van der: Anti-heart antibodies in the postpericardiotomy and the postmyocardial-infarction syndromes. *Lancet* 2:617-621, 1964.
8. Wendkos, M. H.: The significance of electrocardiographic changes produced by thioridazine. *J. New Drugs* 4:322-332, 1964.
9. Hollister, L. E. and Kosek, J. C.: Sudden death during treatment with phenothiazine derivatives. *JAMA* 192:1035-1038, 1965.
10. Giles, T. D. and Modlin, R. K.: Death associated with ventricular arrhythmia and thioridazine hydrochloride. *JAMA* 205:108-110, 1968.
11. Alexander, C. S. and Nino, A.: Cardiovascular complications in young patients taking psychotropic drugs: a preliminary report. *Amer. Heart J.* 78:757-769, 1969.
12. Alvarez-Mena, S. C. and Frank, M. J.: Phenothiazine-induced T-wave abnormalities: effects of overnight fasting. *JAMA* 224:1730-1733, 1973.
13. Klatskin, G. and Kantor, F. S.: Mitochondrial antibody in primary biliary cirrhosis and other diseases. *Ann. Intern. Med.* 77:533-541, 1972.
14. Doniach, D. and Walker, G.: Mitochondrial antibodies (AMA). *Gut* 15:664-668, 1974.
15. Espinosa, E. and Kaplan, M. H.: Antigenic analysis of human heart tissue: identification of antigens with specificity restricted to heart and skeletal muscle in acid extracts of myocardium. *J. Immun.* 100:1020-1031, 1968.
16. Ritchie, R. F.: The clinical significance of titered antinuclear antibodies. *Arthritis Rheum.* 10:544-552, 1967.
17. Husain, M.; Neff, J.; Daily, E. *et al.:* Antinuclear antibodies: clinical significance of titers and fluorescence patterns. *Am. J. Clin. Path.* 61:59-65, 1974.
18. Blomgren, S. E.; Condemi, J. J. and Vaughan, J. H.: Procainamide-induced lupus erythematosus: clinical and laboratory observations. *Amer. J. Med.* 52:338-348, 1972.
19. Pinckard, R. N.; Olson, M. S.; O'Rourke, R. A. *et al.:* Development of complement-fixing 19S, anti-heart mitochondria autoantibody, following myocardial infarction in dogs. *Circ. Res.* 29:276-285, 1971.
20. Flax, M. H.: Drug-induced autoimmunity (Editorial). *N. Eng. J. Med.* 291:414-415, 1974.

DEATH RATE FOR LEGAL ABORTIONS

The Center for Disease Control, Atlanta, Ga., reported in a recent issue of *JAMA* the death rate for legal abortion in the United States for three years, 1972-1974. Records on almost 2,000,000 legal abortions were analyzed.

Death rate averaged 3.9 for each 100,000 legal abortions, Willard Cates, Jr., M.D., and colleagues found. Death rate for continuing pregnancy and childbirth during the same three years was 14.8 per 100,000 live births.

Duration of pregnancy was the most important risk factor. Abortions during the first 12-13 weeks of pregnancy carried relatively little risk. Death rates were higher for older women, non-whites, and for those whose pregnancies were interrupted later in the cycle, Dr. Cates reports.

There were 24 deaths related to legal abortion in 1972, 26 in 1973, and 26 in 1974, the researchers found.

"Clearly, in terms of risk of death, legal abortion is a relatively safe surgical procedure when compared with such commonly performed operations as tonsillectomy or appendectomy, which have death rates of 5 per 100,000, and 352 per 100,000 respectively."

Among women older than 40 years, the death rate was more than four times that of the teenage group, which had the lowest rate.

Abortions performed at eight menstrual weeks' gestation or less carried minimal risk of death, with a ratio of 0.4 per 100,000 procedures, he says.

Abortions in the first three months of pregnancy had a death rate of 1.7 per 100,000.

Drug Abuse

Alcoholic Convulsions and Delirium Tremens

GEORGE R. MASER, M.D., *Shawnee Mission*

A review of clinical experience in which 620 consecutive alcoholic patients were detoxified using intravenous regular insulin and 10% glucose is presented. No patients treated developed delerium tremens or subsequent convulsions. Reference is made to the similarity of hypoglycemia and alcoholism as the precursors of diabetes mellitus.

Introduction

THE PURPOSE of this paper is to present a new method of alcoholic detoxification and to discuss the results obtained with its use. It is based on a method credited to Philadelphia General Hospital and an article by Puyuelo,[1] published in 1935, which depended on a two-step procedure producing hypoglycemia: (1) the administration of insulin; and (2) buffering the reaction with dextrose. This process is known to cause oxidation of alcohol.

The clinical material was obtained from a study of 167 consecutive patients admitted to the Shawnee Mission Medical Center during an eight-year period, 1967 to 1976; there were 620 admissions. Some were admitted with the same diagnosis of acute and chronic alcoholism as often as ten times. Included in the study were 94 men and 73 women, ranging in age 26-72 years. Age 54 was the average at the first admission. It was found that 6 per cent of patients were diabetics (2% in the general population) and 11.5 per cent were considered to be borderline diabetics. Most patients had a long history of alcohol abuse, dating from their teenage years. The alcohol intake in some cases was extremely high; one male admitted consuming three-fifths of a gallon of whiskey/day. Blood alcohol levels on admission ranged 0 to 429 mg/100 ml. The average hospital stay was four days.

Complications included pregnancy, pneumonia, fractures, cirrhosis of the liver, psychosis, and acute surgical abdomen. Many patients had previously experienced convulsions, delirium tremens, and other alarming neurological manifestations.

Procedure

Medical history, usually unreliable because of the degree of intoxication, is obtained. Blood is then drawn for the determination of sugar and alcohol levels. An intravenous solution of 1000 ml of 10 per cent dextrose in water, containing 40 units of regular insulin, and one 5 ml ampule of Solu-B-C, administered in a four-hour period, is given.[2] Occasional transient hypoglycemic reactions are treated with sweetened orange juice. The patient is placed on a regimen of Librium 25 mg every four hours to relieve restlessness. No further intravenous fluids are used. Thereafter, a daily ampule of Solu-B-C is given intravenously. Diet is maintained as tolerated and is used in the treatment of hypoglycemia. It is changed to a high protein, six-meal/day program as the patient improves.

Results

During the 620 admissions with the treatment described above, there were *no* cases of convulsion or delirium tremens subsequent to the initial four-hour treatment. One patient died as the result of overdose of alcohol and other drugs on the 15th hospital day. The autopsy report listed the cause of death as multiple focal abscesses of the brain.

Discussion

Once central nervous system symptoms are established, this treatment does not affect the course of the disease.

During prolonged bouts of drinking, most of the alcohol is detoxified in the liver, but some end product remains. When the consumption of alcohol ceases, these end products cause the central nervous symptoms of convulsion and delirium tremens. However, when insulin is introduced, this neurotoxic substance is neutralized and the central nervous system symptoms do not occur.

Some observers believe that the central nervous system symptoms are due to magnesium depletion.[3] Since

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no magnesium was used in this study, no opinion is rendered on that topic.

Hypoglycemia has been suggested as a factor in acute alcoholism, but in cases where six-hour glucose tolerance tests were done, there were no abnormal results. In no admission was the blood sugar significantly low. It is probable that the initial blood sugar levels were normal due to metabolized alcohol, not because of carbohydrate intake, as most avoided eating during heavy drinking bouts. Many alcoholics, during non-drinking periods, consume large amounts of free sugar in coffee, coke, candy, etc., feeling that sugar helps to bridge a crisis that might start them drinking again. Six per cent of the group were already diabetic, and another 11.5 per cent were considered to be borderline diabetics. Because the symptomatology of hypoglycemia and the non-drinking alcoholic are quite similar, and since insulin is an answer to diabetes and seems to be an answer to alcoholic detoxification, it may be inferred that these are related diseases.

Alcohol and Librium are both depressive drugs which are detoxified in the liver. Since the liver is already damaged by long periods of drinking, large doses of Librium (200-500 mg/day) should be avoided.[4]

In the method described here, the patient is usually able to function well within a few hours after the infusion ceases. Self-care within eight hours after admission is the rule. Eating is resumed during the first 24 hours. Minor tremors may last for days, but rehabilitation can start almost immediately.

Prevention of any alcohol intake is the only answer to the problem of alcoholism. This is notoriously difficult, but an effort must be made in every case to institute long-term therapy through *Alcoholics Anonymous* or some organized alcoholic treatment center.

References

1. Puyuelo, Salinas E.: *Fundamento de la therapeutica insulinica en el delirium tremens. Siglo Med.* 96:523-525, 1935.
2. Adams, R. D.: Nutritional diseases of the nervous system in the alcoholic patient. *Trans. Amer. Clin. Climat. Assn.* 71: 59-94, 1959.
3. Knott, D. H.; Beard, J. D. and Fink, R. D.: Alcoholism Exhibit, American Psychiatric Association, May 1972.
4. Sereny, G. and Kalant, H.: Comparative clinical evaluation of chlordiazepoxide and promazine in treatment of alcohol-withdrawal syndrome. *Brit. Med. J.* 1:92-97, 1965.

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Sin-Cyb-Syn

The Chinese Restaurant Syndrome

W. A. BILL STANLEY, *Topeka*

EMERGENCY MEDICAL personnel have reported incidents of being called to Chinese or other Oriental-style restaurants to rescue patrons who apparently were suffering some of the symptoms of cardiac attack, only to find the event was actually the Chinese Restaurant Syndrome (Sin-Cib-Syn or Post-Sino-Cibal syndrome). The symptoms reported by the sufferers of this syndrome suggest at least some of the more common signs of a coronary attack. Actually, the patient experiences an allergic reaction to monosodium glutamate which is used in greater amounts in Oriental-style cookery than in American or other styles of food preparation. Available literature on the subject presents varying opinions: some experts feel the syndrome is real, while others believe it is totally illusory.

The symptoms usually occur within 15-25 minutes after an abundant meal in a Chinese restaurant.[1] A burning sensation in the back of the neck, followed by burning over forearms and anterior chest, and substernal discomfort followed by intraorbital pressure and tightness are described as symptoms.

Other devotees of Chinese cooking described similar symptoms after eating Chinese cuisine, with episodes occurring 5-20 minutes after partaking of such foods. Most agree the symptoms subside after several hours. Other symptoms included severe aching in the muscles down both sides of the back of the neck spreading into the shoulders, shoulder blades, and upper spine. This is accompanied by a profuse, cold sweat about the face and under the armpits. The climax to each experience is an uncomfortable tightness on both sides of the head, just forward of the ears in the temple area.

The cause is attributed to ingestion of monosodium glutamate (MSG) 5 gm or more used in the preparation of food (non-susceptible persons can tolerate up to 25 gm MSG without reaction). There are no discernable signs, erythema, or muscular contraction in areas of burning or constriction. No diagnostic procedures have been developed and no therapy seems helpful. As many as eight episodes/day can be survived.

In relating a personal experience, Dr. Kwok[2] narrated that he found himself affected 15-20 minutes after eating the first dish of a meal prepared in a Chinese restaurant that served Northern Chinese food. The symptoms lasted for about two hours without any hangover effect. The most prominent symptoms in his particular episodes were numbness at the back of the neck, gradually radiating to both arms and the back, general weakness, and palpitations. Dr. Kwok related that his symptoms were similar to those he had from hypersensitivity to acetylsalicylic acid, but milder.

A review of symptoms, possible cause, and suggested therapies for the Post-Sino-Cibal syndrome is presented.

After discussion with colleagues, and testing the ingredients in a combination with other foods prepared at home, Dr. Kwok discounts the notion that the symptoms may be caused by some ingredient of soy sauce or wine.

Monosodium glutamate is used extensively for seasoning in Chinese restaurants. The high sodium content of Chinese foods may produce hypernatremia, which may consequently cause intracellular hypokalemia, resulting in numbness of the muscles, generalized weakness, and palpitations. Additionally, Dr. Kwok and colleagues considered the fact that Chinese food caused thirst, which would also point to high sodium ingestion. The syndrome may, therefore, be due merely to the large quantity of salt in the food, and the high dissociation content constant of the organic salt, monosodium glutamate, may make the symptoms more acute.

By performing a research project utilizing blind and double blind techniques on three volunteers at a Chinese restaurant, they discovered that the reaction is characterized by an onset time of 15-25 minutes with a duration of 45 minutes and a fluctuating intensity. The subject first feels a burning sensation in the back of the neck, followed by a burning over the forearms and anterior thorax. This is followed by a feeling of intraorbital pressure and tightness. There is a variable amount of substernal discomfort. The burning is with-

(Continued on page 249)

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Psyche and Skin

Sick Psyche–Sick Skin

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PSYCHIC FACTORS play a very important role in diseases related to the skin and mucous membranes. Little attention and research have been afforded this problem; however, on frequent occasions, realization, attention, and proper handling of these factors will spell the difference between therapeutic success or failure. In recent years especially, psychic problems have become increasingly significant. The opinions expressed in this paper are the results of decades of observation and exposure to these problems.

Terminology

Functional disorders, psychosomatic dermatosis, psychic dermatosis, and cutaneous neurosis are terms frequently used in a way that may be considered synonymous. Functional disorders, as the term indicates, is an altered functional mechanism for which no organic cause is presently discernible. This covers a broad group of diseases, but the number is gradually being reduced as researchers attack the problem.

PSYCHOSOMATIC

This term is almost synonymous with "functional" disorders, differing only in the fact that the origin of the disease lies in the nervous system. The inclusion of "cutaneous neurosis" in this category is objectionable because it emphasizes psychiatric abnormalities, although the skin may be affected by psychosomatic disorders. Norman Wrong[1] states that the skin is an organ for expressing anger, fear, resentment, and shame. Anger is in fact known to be demonstrated by intense flushing, particularly of the face, and excessive sweating, while fear can be demonstrated by pallor, sweating, itching, and hiving. Shame, as a factor in flushing, was noted early by the French in the diagnosis of erythema *a pudore* (erythema of shame), as describing an intense rosy flush over the female chest and breasts, associated with embarrassment. This condition is frequently noted on examination of female patients.

Wearing of sackcloth, covering the body with ashes, and mutilation of the skin by those who grieved or felt penitent has been documented in biblical times. These varied psychic disturbances may be classified as: (1) primary; (2) secondary; and (3) intermediate. Primary disturbances are caused by psychic factors and are few in number. The classification of primary psychic disturbances may be divided into major and minor categories.

Included in the major disorders is acarophobia (delusional parasitosis) as a psychic disorder when the patient believes he is infested or contaminated by bugs or insects. There is usually an underlying major psychosis. Such patients present lurid and vivid stories of feeling or seeing these organisms. They often collect and bring in specimens in little boxes which, upon examination, are revealed as pieces of lint, dirt, or fragments of skin. These patients are persistent in their beliefs and may become violent with those who do not agree with them. It is best for the examining physician to accept their statement and realize that he is facing a mentally deranged patient. The condition is transferable from man to wife, and vice versa.

Schizophrenia

Schizoid personality may initially begin with skin manifestations. The most remarkable case fitting this category involved a young physician, who, disliking his appearance, shaved off his entire facial skin. He consulted several dermatologists mainly to assure himself that his conduct was normal. He related tales of fixing mirrors at various distances, staring into these mirrors, and seeing crystals exude from his skin and cover his face as a mask. He would then tap the side of his face and the mask would break and shatter. The patient became progressively worse, seeing shadows of people spying on him from behind trees. He was later committed to a mental institution.

Manic-Depressives

This group is known to mutilate and cut their wrists, sometimes in an attempt at suicide.

Dermatothlasia

This is a cutaneous neurosis, when the patient has an uncontrollable desire to rub, pinch, and bruise various areas of his skin.

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Factitial Dermatitis

Patients suffering from this condition inflict injuries to their skin. The lesions are bizarre and vary in severity. The type of injury depends on the method of self-infliction, and may include needles, knives, and chemicals. In the latter, linear courses following the direction of the chemical drip are visible. While the lesions are bizarre and easily recognized, the patient will not admit to self-abuse. The cause of such behavior may be associated with severe neurosis, or pity or attention, or pecuniary gains.

Neurotic Excoriations

This condition manifests a compulsive habit of picking and excoriating the skin. As a rule, the habit is a subconscious one, with the face and upper back most frequently involved. Punctate ulcerations, usually superficial, vary in depth. The condition is chronic, and various stages of healed ulcers and fresh lesions can be seen. This type of neurosis is difficult to define, but most patients complain of itching. The attempt at treatment has not been gratifying.

Neurosis

This condition may be severe to mild, and presents the most common problems seen by the practitioner. Included in this category are the varied phobias and hysteria; it usually does not mean "nervousness" as understood by the lay person. The average patient encountered in practice uses the term rather loosely. People who are vocal and demonstrative usually rid themselves of their anxieties, tensions, and inhibitions by emoting physically or verbally.

Anxiety

Anxieties can be considered universal. Some anxiety is normal and worthwhile, and provides the individual with necessary zeal and drive to gain a desired objective. Anxieties build up insidiously. The human being, unlike modern machines, is not equipped with signals or lights which may indicate to a motorist or an engineer that trouble is ahead or a major problem exists. In the human, anxieties build up to a point and erupt, creating psychic problems. Frequently, the patient is totally unaware that a problem exists. Often the problem is suppressed into the subconscious level, or the patient's ego may be such that he will not accept it and consider the psyche as an undesirable weak spot. The skin is usually involved, and the most frequent manifestation is itching, although other phenomena, such as urticaria, may exist. Headaches, sleeplessness, and difficulty to concentrate also may occur. Disorders (psychogenic) of other organs may occur, making the diagnosis easier to ascertain.

Reasons for anxiety are varied and are on the increase, including frustration, marriage, children, morality, sex, divorce, working conditions, relationships to other people, taxes, modern modes of living, inflation, and shortages as the precipitating causes for the condition of anxiety. There is no type of individual, rich or poor, black or white, old or young, ignorant or educated, who is exempt. Children are frequently involved. The retired, particularly those who retired early with control of their physical and mental faculties, require special consideration.

PHOBIAS

These are common and varied, and represent an abnormal fear and anxiety. Fear of disease today is enhanced by newspaper articles, because the news media treat medical matters as head-line stories. This serves only to confuse the reading public and create problems for the practicing physician. The most common phobia is cancer phobia, which creates panic and leads to unnecessary and countless removal of benign skin lesions.

Syphilophobia

This condition is an abnormal fear of venereal disease. It had abated somewhat with the advent of penicillin, but is now on the rise due to increasing sexual promiscuity.

Fear of Pregnancy

This phenomenon is self-explanatory, both for the single and married woman. It has resulted in the widespread use of the pill, as well as countless marriage counselors.

Menopause

The fear of menopause creates anxiety in the elderly of both sexes, resulting in abnormal sweating and, at times, pruritus. The condition has spawned a variety of expenses and has built up a $2 billion cosmetic industry. Also, it frequently results in unnecessary plastic surgery.

Bromidrosis Phobia

The patients in this category develop convictions that they exude offensive odors. This may occur in both those who have excessive sweating, and those who have dry skin. These people are especially affected by television soap commercials, to the point of taking two-three baths/day, in water as hot as they can tolerate, and then wondering why they itch.

Hair

Either too much or too little hair can cause a phobia. This has also contributed to a large industry, and many patients seek out various quacks to obtain relief for the

problem as they see it. Cutting and pulling out scalp hair is frequently seen in children, but it is temporary, attention-getting behavior.

Trichotillomania

This is a more serious condition in which hairs of scalp, eyelashes, or eyebrows are pulled out. These people may be in a severe underlying state of anxiety. This condition is difficult to treat, and has been observed in sufferers of atopic dermatitis. The term *trichokyptomania* is used for cases when the hair is broken off, rather than pulled out.

Nail Biting

Nail biting is a frequent occurrence and can result in nail change. This condition, like head bumping, biting, and skin lacerations can result from anger and frustration. Pulling of hangnails is a common habit and may lead to paronychia. Licking of lips may produce excessive drying and fissuring, as well as peri-oral dermatitis. Biting of fingers is an anxiety reaction leading to knuckle-pads.

Cutaneous Hysteria

A psychic phenomenon, this condition is sufficiently different to merit a separate classification. While this problem is seen less frequently, its onset is more acute and associated with other varied hysterical traits. The manifestation is usually pruritus, and there is a variation of intensity. This condition can be clinically differentiated by absence of ocular and laryngeal reflexes. Response to treatment is better than in the more severe neuroses.

Hyperhidrosis

An important entity which is frequently encountered, this condition can be divided into two types: (1) the generalized type, appearing usually in association with environmental conditions or a variety of organic diseases; and (2) the localized type, which is usually associated with psychic causes which act through stimulation of the sympathetic nervous system. The result is excessive sweating. Any intertriginous area, as well as the scalp, face, and neck can be involved, with the soles and palms, however, most frequently affected. The excessive heat, moisture, and friction often result in intertrigo and complicating fungal infections. The recent trend in fashions, such as tight-fitting clothing, and uses of synthetic fibers tend to retain body heat. Panty hose, plastic in shoes, and use of rubber as soles of shoes act in a similar manner. This type of hyperhidrosis should be differentiated from a compensatory hyperhidrosis. This entity is seen in patients who have a relative anhidrosis of the body. The skin, acting as the refrigeration unit of the body, must compensate and produce excessive moisture over areas of normal sweating. Such areas are frequently the face and neck. Hyperhidrosis is a vexing problem to the patient, and this group frequently falls prey to commercialism and television advertisements.

Paresthesias

This condition, involving various areas of the body, may be psychic in origin, as in formication. Indicative of the condition is a burning sensation which may be encountered on any part of the body.

Pruritus Ani, Vulvae, and Scroti

These areas are common sites of eroticism. Itching here may be due to psychic factors. It may be severe enough to result in explosive paroxysms of scratching. The patient tears at his skin, inducing bleeding and excoriation. This condition tends to be chronic and not significantly responsive to therapy. Other neurotic traits in the individual may be noted.

Lichenification

In response to repeated irritation, the skin attempts to protect itself by thickening. Clinically, the skin shows an increase in linear skin marking, and an irregular acanthosis histopathologically. The precipitating factor is usually chronic itching. The more the skin thickens, the more severe the itching, producing a vicious cycle. Any area of the body is vulnerable. Certain areas, such as scalp, ears, cubital areas and nuchal region in women, are frequently involved. Many of these cases are psychic in origin. The itching tends to be nocturnal. While all ages may be involved, elderly males confined to institutions are frequent victims. There are a number of synonyms, such as localized neurodermatitis (to be distinguished from disseminated neurodermatitis, which is atopic dermatitis), lichen simplex chronicus, and lichen simplex nuchae, involving the posterior hair line.

In nodular neurodermatitis, the lesions are punctate and raised, with crusted, excoriated surfaces. Giant lichenification was described by Pautrier.[1] In these cases, large infiltrated patches or plaques are produced by scratching. These cases are difficult to cure, and the patients are observed for years to rule out lymphoma.

Secondary psychic disorders represent a vague group. Anxiety, fear, or phobias may play varying roles in the total picture of disease. Patients are frequently confused, ignorant, or misinformed by other patients or medical articles in newspapers.

Psychic factors are considered contributors in the group titled "intermediate psychic disorders." This group consists of the following conditions:

1. *Alopecia areata.* This type of hair loss may involve any hair-bearing area, primarily the scalp. It is usually patchy but may be generalized or total in distribution. The disease is listed in textbooks as being psychic in origin, but there are no definite data to prove this point.[2] The disease is usually self-limiting but may persist with total hair loss through a lifetime.

2. *Acne vulgaris.* This is a complex disease in which psychic factors play a varied role. In teenagers, excoriated acne is not uncommon, with those affected tearing at the lesions, either in desperation or in an attempt to empty the pustules. This tendency may become habit-forming or a compulsive neurosis. The presence of acne can induce secondary emotional problems, because of unsightly appearance and later residual scarring. In adults, psychic factors probably can contribute to the diseased state.

3. *Atopic dermatitis.* This disease is considered to be of unknown cause, but the psyche plays a major role. Itching plays a prominent role, resulting in lichenification. The individual presents emotional characteristics which help identify the entity. The atopic sufferer is usually of above-average intelligence. He is fidgety and has difficulty in handling situations. He tends to magnify his problems. Itching may be intense, with nocturnal exacerbations, and may reach a subconscious level.

4. *Lichen planus and lichen moniliformis (Kaposi),* of unknown cause, are considered to be psychic disturbances.

5. *Chronic urticaria.* This entity may be considered to be primarily of psychic, rather than allergic, origin. The treatment, when given with such condition in mind, has often been rewarding.

6. *Exudative discoid and lichenoid dermatitis,* called "oid-oid" disease, was publicized by Sulzberger[3] and is limited to Jews living in New York City. It is considered psychic in origin and is difficult to differentiate from neurodermatitis.

History

The patient's medical history should pay particular attention to the exact description and pattern of itching. Unlike organic disease, neurotic itching is not constant but rather recurrent, ephemeral, and tends to be nocturnal; minor sensations can be suppressed on a conscious level during the waking hours. Scratching or rubbing quickly relieves the symptoms and often affords a feeling of pleasure. The actual sensation varies in severity and may be described as an itch, a tingling sensation, feelings of pins and needles, or the sensation of things crawling on the skin (formication).

On examination, the skin may be clear or excoriated in varying degrees of severity; when the situation is mild or chronic, rubbing of the skin occurs. Varying degrees of lichenification (thickening) may be the presenting feature. Temporary whealing at the sites of friction may occur as a symptom.

Conclusion

The psyche plays an important factor, either primary or contributory, in a vast variety of skin diseases. The physician treating such patients must be aware of the problems, and the therapeutic regime must include modalities to cope with them. Sound training in basic internal medicine is helpful, and an accurate diagnostic acumen is essential. The cutaneous sensations, although not organic, are real to the patient and should not be disregarded. Such patients require a great amount of time. Medical history must be taken in depth, probing into the psyche skillfully and cautiously. A close patient-physician relationship may first need to be established.

A psychiatrist can be helpful in cases of the severely mentally deranged. The dermatologist, trained in picking up psychic traits and with knowledge of physiology and dermatological therapy, is best suited in handling the majority of these cases.

The actual therapy, after the psychic factors are noted and considered in their proper perspective, must be individualized to suit the individual case.

References

1. Domonkos, A. N.: Pruritus, cutaneous neuroses and neurocutaneous dermatoses. *Andrews' Diseases of the Skin,* 6th ed. Philadelphia, W. B. Saunders Co., 1971, pp. 61-76.

2. Griesemer, R. D. and Mehlman, R. D.: The emotional aspect of cutaneous disease in T. B. Fitzpatrick, *et al.,* eds. General Medicine, New York, McGraw-Hill, 1971, pp. 1581-1591.

3. Sulzberger, M. B. and Garbe, W.: Nine cases of a distinctive exudative discoid and lichenoid chronic dermatosis. *Arch. Derm. Syph.* 36:247, 1937.

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Rural Perinatal Center

Development of a Rural Level II Perinatal Center

ROBERT N. ENBERG, M.D., ROBERT H. COX, M.D. *and*
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A Level II, Secondary Care Perinatal Center in rural Kansas and the results of its first 30 months of operation are described.

REGIONALIZATION of perinatal care and the need for a stratified system of perinatal centers has been the topic of extensive literature recently.[1-5] Designated Levels I, II and III centers, institutions providing primary, secondary, and tertiary care would cooperate with one another to ensure availability and efficient delivery of optimal perinatal services. While the experience of university-based Level III centers is widely known, the experience of Level II centers has not been previously reported.

Hays, Kansas, population 16,000, is the regional medical center for most of the 100,000 people in sparsely populated northwestern Kansas. The community is served by 30 private practitioners, including four family physicians, two obstetricians, and three pediatricians. No other obstetricians or pediatricians practice within the referral area.

Services

The Level II Perinatal Center at Hays was established in January 1974, and is housed in one of two 125-bed local hospitals. Services are offered in four areas: obstetrics, neonatal care, transportation, and continuing education.

Obstetrical services include evaluation of the status of the fetus before and during labor. Studies involving maternal urinary estriol, photometric analysis of amniotic fluid, lecithin sphingomyelin ratios, oxytocin challenge, and ultrasonography are commonly done. Electrical fetal monitoring during labor is routine. An overhead radiant heater and equipment for infant resuscitation are present in each of the two delivery rooms. Start-up time for an emergency Cesarean section may vary from 15 to 40 minutes, depending on the time of day.

The neonatal intensive care unit (NICU) is a section of the hospital's critical care unit. Five stations are available in our center, each with an Isolette, cardiac monitor, compressed air, oxygen, and suction. The unit has five phototherapy lights, four oxygen dilutors, four infusion pumps, and a procedure area equipped with a servo-controlled radiant heater. X-ray, laboratory, and blood banking services are available 24 hours a day. A registered nurse with training in the care of high-risk neonates is present on every shift. All NICU staff nurses receive a ten-hour orientation course; most have spent one to three weeks training in a tertiary neonatal ICU. Expenses for out-of-town training and continuing salary are paid by the hospital. Weekly lectures provide ongoing inservice education. Admissions are initiated at the request of the attending or referring physician, rather than by formal criteria. Patients with perinatal asphyxia, infection, jaundice, transient respiratory distress, mild hyaline membrane disease, hypocalcemia, and hypoglycemia usually remain in the

unit. Patients who weigh under 1,500 gm, who need continuous assisted ventilation, or who may need surgery are referred to a Level III center.

Transport of high-risk infants from the outlying area to Hays is provided by county ambulance service. Infants are attended in transit by trained registered nurses, most of whom are NICU staff nurses. When difficult cases are expected, a pediatrician also participates in the transport. Start-up time averages 30 minutes. A 110-volt alternator is present in the ambulance, powering the Isolette and nebulizer heater. Also available are a battery-powered monitor and infusion pump, and equipment for resuscitation. The transport nurse assesses the infant at the referring hospital, assists the referring physician in stabilizing the infant for transport, and monitors the infant's color, activity, temperature, and blood sugar on the return trip to Hays. The nurse consults the attending pediatrician by telephone before leaving the referral hospital and may contact him by police radio during the return trip. Transfer to Level III centers is accomplished with the same ground vehicles, military helicopter, or fixed-wing aircraft.

The center provides continuing education for both nurses and physicians in northwestern Kansas. All-day workshops or a series of four inservice seminars were presented to 279 professional personnel in 14 area hospitals. The content of these sessions is outlined in *Table I*. Most teaching was done by a pediatric nursing instructor; some teaching was done by pediatricians. Perinatal education has been enhanced by the programs of regional tertiary centers.

Results

A total of 742 infants were delivered at the center from January 1, 1974 through June 30, 1976. Admitted to the NICU during the same period were 142 infants, of whom 59 were inborn. Of the total, 91 infants were preterm. The primary diagnoses of these infants are presented in *Table II*. Because most infants had more than one diagnosis (*e.g.*, hyaline membrane disease and hypoglycemia), many problems were more common than indicated in *Table II*. The six most commonly made diagnoses are presented in *Table III*. Blood gases were monitored in 92 patients. Fifty-five patients received umbilical arterial catheters, including 14 who received continuous positive airway pressure via mask or nasal

TABLE I

TOPICS IN PERINATOLOGY FOR LEVEL I CENTERS

1. Identification of high risk pregnancy
2. Infant assessment in the delivery room
3. Resuscitation of the newborn
4. Classification by gestation and weight of the newborn
5. Common problems of the newborn
   a. Cold stress
   b. Hypoglycemia
   c. Respiratory problems
   d. Sepsis
   e. Hyperbilirubinemia
6. Stabilization for transport

TABLE II

PRIMARY DIAGNOSES IN 142 HIGH-RISK INFANTS

Respiratory		82
Hyaline membrane disease*	50	
Transient tachypnea of newborn	25	
Pneumonia	1	
Meconium aspiration	3	
Chronic pulmonary insufficiency or prematurity	1	
Asphyxia	2	
Hyperbilirubinemia†		22
"Physiologic"	13	
ABO incompatibility	4	
Rh incompatibility	5	
Infection		13
Meningitis	3	
Sepsis	3	
Suspected sepsis	6	
Urinary tract infection	1	
Congenital malformations		8
Encephalocele	1	
Teratoma	1	
Stridor	1	
Diaphragmatic hernia	1	
Imperforate anus	2	
Rectal bleeding	1	
Cleft palate/cleft lip	1	
Cardiac		4
Myocarditis	1	
Endocardial fibroelastosis	1	
Congenital heart disease	1	
Suspected congenital heart disease	1	
Others		13
Infants of diabetic mothers	2	
Hypoglycemia‡	4	
Well preterms	3	
Polycythemia	1	
Feeding disturbance	1	
Hypoproteinemia	1	
Seizure disorder	1	
		142

* Diagnosis established by a reticulogranular pattern with air bronchogram on chest x-ray and FiO_2 greater than 45 per cent longer than 24 hrs.

† Total bilirubin equal to or greater than 12 mg/100 ml in term infants, equal to or greater than 8 mg/100 ml in preterm infants.

‡ Glucose equal to or less than 30 mg/100 ml.

TABLE III

COMMON DIAGNOSES IN 142 PATIENTS

Hyperbilirubinemia	57
Hyaline membrane disease	50
Transient tachypnea of newborn	27
Hypocalcemia*	11
Hypoglycemia	10
Infants of diabetic mothers	8

* Equal to or less than 7 mg/100 ml.

prongs. Ten infants underwent exchange transfusion. As can be seen in *Table IV,* 82 per cent of infants admitted to the NICU survived. During the followup period of 6 to 30 months, two patients were found to have severe morbidity: one patient developed hydrocephalus following intracranial hemorrhage, while the other patient developed spastic diplegia.

A total of 61 infants were transported from 15 Level I hospitals to Hays via the center's transport service during the period of this study. The mean length of a one-way trip from referring hospitals was 66 mi. Twenty-two were transported to the center by conventional means, *i.e.,* local ambulance or passenger car. Forty infants were referred to Level III centers. Outcomes are presented in *Table IV.*

Discussion

Regionalization of perinatal care has been proposed in an attempt to make optimal care readily available and efficiently delivered to the entire population. Under such a plan, Level I centers would provide uncomplicated maternal and neonatal care in areas not served by other centers. They would also provide emergency management of unexpected complications. Level II centers would provide complete maternal and neonatal care for uncomplicated and most high-risk patients. Presumably, Level II centers would provide care for the great majority of perinatal patients. Level III centers, with the resources of the university medical complex, would provide care for the most difficult and complicated patients. The responsibility of the

TABLE IV

SUMMARY OF 142 HIGH-RISK INFANTS
(Number of Survivors/Number of Patients)

Birth Weight (Grams)	*All Patients*	*Pts. With Hyaline Membrane Disease*	*Pts. Without Hyaline Membrane Disease*	*Inborn Patients*	*Inborn Receiving Full Care Here*	*Inborn Transported to Level III*	*Outborn With Center's Transport*	*Outborn and Conventional Transport*	*Outborn Receiving Full Care Here*	*Outborn Transported to Level III*
Total	117/142 (82%)	37/50	80/92	51/59	40/41	11/18	47/61	19/22	53/61	13/22
> 4,001	7/7 (100%)	0/0	7/7	3/3	3/3	0/0	1/1	3/3	3/3	1/1
2,501-4,000	52/60 (86%)	9/9	43/51	21/22	19/19	2/3	20/24	11/14	27/32	4/6
2,251-2,500	13/13 (100%)	5/5	8/8	6/6	5/5	1/1	4/4	3/3	6/6	1/1
2,001-2,250	9/10 (90%)	3/4	6/6	4/4	4/4	0/0	4/5	1/1	4/5	1/1
1,751-2,000	11/12 (91%)	4/5	7/7	5/5	3/3	2/2	6/7	0/0	6/7	0/0
1,501-1,750	14/17 (82%)	8/10	6/7	6/6	5/5	1/1	7/10	1/1	6/7	2/4
1,251-1,500	5/5 (100%)	2/2	3/3	3/3	1/1	2/2	2/2	0/0	1/1	1/1
1,001-1,250	5/11 (45%)	5/8	0/3	3/7	0/1	3/6	2/4	0/0	0/0	2/4
< 1,001	1/7 (14%)	1/7	0/0	0/3	0/0	0/3	1/4	0/0	0/0	1/4

Level I center may readily be undertaken by most community hospitals. Similarly, the resources of the university medical center may reasonably be directed toward meeting the responsibilities of Level III centers. On the other hand, the development of Level II centers is uniquely demanding, because it requires consensus through education and persuasion as opposed to decision by administrative authority. Physicians, nurses, hospital administrators and consumers, all must enter the decision making process. Furthermore, it requires improved standards of care, additional training of both medical and nursing staff, acquisition of expensive equipment, and a change in referral patterns. Lack of experience in Level II perinatal center development magnifies these difficulties.

The responsibilities of a Level II center were often misunderstood during its early months. Nursery personnel felt threatened and frequently became hostile upon seeing newborns transferred directly from the delivery room to the neonatal intensive care unit. Increased responsibility and lack of experience caused anxiety for NICU nursing personnel. Referring physicians were initially reluctant to change long standing patterns of management; they questioned whether critically ill infants would survive transport, and worried about increased morbidity. Hospital supporters were adverse to the transfer of patients to another institution of otherwise equal capability. Care of high-risk newborns in a critical care area was viewed with skepticism. However, doubts have been mitigated as aggressive treatment has become common, and high-risk obstetrical patients are now encouraged to deliver in the center.

Most studies identify one-third of the obstetric population as high risk.[5,6] It is, therefore, estimated that approximately 245 of the women delivering here during the study period were at increased risk. Only 6-10 per cent of newborns, however, require intensive care.[5] The 59 inborn high-risk patients represent 8 per cent of those infants born here. Over 97 per cent (724 : 742) of all inborn infants received their total care here.

All but one of the inborn patients who received full care in the center's NICU survived. Seven of the eight inborn NICU patients who died weighed under 1,250 gm at birth; the eighth infant probably had congenital heart disease (his autopsy request was denied). These results are gratifying and, in our judgment, may be attributed to aggressive intra- and post-partum care with early transport, when appropriate, to Level III centers. The suggestion that all infants who weigh under 1,500 gm at birth be transferred to Level III centers is justified. All eight outborn patients who died here were critically ill upon arrival and were never stabilized. The greater mortality of outborn as compared to inborn patients, no doubt, represents a combination of factors: selected patients of high risk, lack of early aggressive treatment with consequent cold stress and hypoxia, and the rigors of transport.

But many problems still face us. Low patient volume, accentuated by the availability of obstetrical services in both local hospitals, makes the maintenance of technical skills difficult. Small numbers of patients requiring intubation, exchange transfusion or chest tubes, for example, make the establishment of a facility with these procedures economically unfeasible. Low patient volume also makes continuing education for nursing staff difficult; this is complicated by the fact that there is a large turnover (30%/year) among nursing personnel. Most of our patients born in outlying hospitals were transported without an I.V. in place, and this is particularly regrettable when long distances are involved. Nurses are presently being trained to establish an I.V. route before transport is undertaken.

Summary

A Level II perinatal center was developed in Hays, Kansas to serve the 100,000 people in sparsely populated northwestern Kansas. The center provides obstetrical, neonatal, transport, and educational services. During 30 months of operation, 742 infants were inborn, 59 of whom were admitted to the neonatal intensive care unit. An additional 83 high-risk infants were referred from outlying hospitals. Forty of the 142 high-risk infants were transferred to a Level III center. There was no maternal mortality. Sixty-six of 83 outborn infants survived, while 51 of 59 inborn infants survived. Seven of the eight inborn infants who expired weighed under 1,250 gm at birth.

The Hays perinatal center is staffed solely by physicians in private practice and receives no grants-in-aid or other outside funding. This experience indicates that Level II perinatal centers can be developed and maintained by resources generated within an isolated community.

Acknowledgement

Howard A. Fox, M.D. and Robert Hall, M.D. provided the critical review of the manuscript.

References

1. Ryan, G. M.: Toward improving the outcome of pregnancy. *Obstet. Gynec.* 46:375, 1975.
2. Farr, L. A.; Guthrie, R. A. and Nelson, R. S. *et al.*: Perinatal care. *J. Kansas Med. Soc.* 75:259, 1974.
3. Perinatal Standards for the State of Florida. Department of Health and Rehabilitation Services, Division of Children's Medical Services. 1975.

(Continued on page 253)

Toward Earlier Care

Developing and Implementing a High Risk Birth Registry

GRACE E. HOLMES, M.D.,* *Kansas City, Kansas*

A RISK BIRTH REGISTRY for any given population should be designed to identify and benefit the high risk newborn.

Present day comprehensive medical care for infants and children must include services for the sick or handicapped, preventive education, and health care for the whole infant population and, in addition, provide some mechanism for the early detection and diagnosis of disease or defect. This latter aspect becomes more important with the demonstration that some handicaps can be detected early, and early treatment can help to ameliorate the progression of the disease.

Ideally, all infants should be screened for hidden handicaps which might be detected if a simple developmental examination is included in the routine examination of all infants who are brought to the attention of a physician.

In 1961, Lindon[1] and, later, Sheridan,[2] in England, suggested that the local health authorities in the United Kingdom should initiate and maintain registers of "at risk" infants, who should be followed carefully for several years until it became evident that they were either clearly normal or showed evidence of handicap. This plan was approved by the Ministry of Health and widely adopted in Great Britain.

Five years later, Oppé[3] critically examined this entire plan of a risk register. He suggested, quite appropriately, that an acceptable "at risk" group must have characteristics which distinguish it from the normal group, and that specific discriminating criteria must be available for identification of infants who are to be included. The criteria published by Sheridan in 1962, and adopted by most local authorities in England, included an exhaustive list of factors including family history of congenital anomalies and a multitude of prenatal, perinatal, and postnatal factors. If all criteria had been adhered to, 60-70 per cent of all births would have been considered "at risk." A followup questionnaire to determine the practicality of the registry indicated that it was cumbersome and, furthermore, all children need to have careful followup regardless of risk. Most of the health workers felt that the source and quality of the initial information regarding the child varied too much so that it introduced a great deal of inaccuracy into the registry. Other criticisms included the fact that the term, "at risk," created much anxiety in parents, even though the majority of such infants are and always will be normal children who require a series of developmental examinations.

A Risk Birth Registry was started in October 1975, to help identify and benefit high-risk newborns. The registry is designated as a medical research study under the confidentiality law (G.S. 65-177-65-179. 1961 Suppl.), and has been approved by the Bureau of Maternal and Child Health, Kansas State Department of Health and Environment, as a pilot project of the Wyandotte and Johnson County Health Departments. Risk babies having one or more of four-risk criteria and control babies without risk factors are matched according to age, race, and sex. Followup information from the child's physician is obtained, with permission of the parents, every 6 months to 2 years of age. Appropriate community services are recommended to the physician if indicated. Results of the first year are discussed.

Oppé further suggested a revision in the criteria to make them more discriminating so that approximately 15-20 per cent of all births would be considered "at risk." In addition, he stressed that an "at-risk" register, which stayed as an office file, was of little value and the information must be translated into effective action for the benefit of the infant.

Richards and Roberts[4] described the "at-risk" register situation as one in which "an undefined population is being screened for undefined conditions by people who, for the most part, are untrained to detect the conditions for which they are looking!"

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In this research study, designed to establish a risk birth registry in Kansas, an effort was made to overcome the numerous pitfalls of such a registry, with the ultimate goals being to identify and to benefit the high-risk newborn.

Material and Methods

In developing a risk birth registry as a pilot study for the state of Kansas, several objectives of such a registry were established. These included: (1) identification of factors in pregnancy, labor, delivery, and the early newborn period considered to be of high risk to life or to the development of the infant; (2) identification on followup of overt or subtle problems in the infant; and (3) dissemination of information regarding early and appropriate intervention techniques in the care of infants with problems. Long-term objectives would include long-term planning by the community (local, county, state) with regard to needed facilities for the present and future, thereby increasing the productivity of individuals with problems and decreasing the overall financial responsibility of the community.

The most crucial as well as the most difficult part of the planning of the registry was determination of risk criteria. The value of such a registry is markedly diminished by including either too large or too small a percentage of the newborn population.

In order to determine which factors most commonly cause developmental problems, over 100 hospital charts of children with cerebral palsy and psychomotor retardation followed at the University of Kansas Medical Center College of Health Sciences and Hospital were reviewed. Perinatal histories of these children most commonly included the factors of: (1) prematurity; (2) low birth weight (less than 2500 gm); (3) respiratory problems with or without prematurity; (4) abnormal condition of labor or delivery; and (5) abnormal condition of the child at birth.

These criteria were subjected to scrutiny by utilizing them in a review of over 1,000 birth certificates of babies born in Wyandotte County, Kansas, from 1972-1974. There were 317 babies who had one or more of these risk factors; followup information was available for 179. Of this number, there were 40 (22%) who had a history of neonatal mortality or problems in the first year of life. Prematurity and low birth weight with or without respiratory problems contributed to 23 deaths in the newborn period, with congenital anomalies playing only a minor part. Conversely, congenital anomaly was the prominent feature in the picture of long-term morbidity, with prematurity playing a contributing role.

On the basis of these findings, the following four conditions were chosen as high-risk criteria in the newborn for the purpose of detecting future problems in growth or development of the infant: (1) prematurity (less than 37 weeks gestation); (2) low birth weight (2500 gm or less); (3) respiratory problems in the early newborn period; and (4) congenital anomalies. Information regarding these four criteria is available from the basic birth certificate of the state of Kansas and from the supplemental medical section of the birth certificate.

In October 1975, approval of a format for developing a risk registry based on these four criteria was given by the Bureau of Maternal and Child Health in the Department of Health and Environment of the State of Kansas, and was designated a Medical Research Study under the Confidentiality Law (G.S. 65-177-65-179. 1961 Suppl.). The study began and currently functions as a pilot project in Wyandotte and Johnson counties in cooperation with their respective health departments. A pediatric faculty member (GEH) from the University of Kansas Medical Center acts as consultant and catalyst for the study *(Figure 1)*. A secretary-coordinator, working part-time, holds the only salaried position in the program which was funded for the first year through a grant from the Johnson County Mental Retardation Center.

On a weekly basis, the secretary reviews birth certificates of babies born and residing in Wyandotte and Johnson counties. From the birth certificate information, she registers all babies who fit one or more of the criteria. Control babies, who do not demonstrate the risk criteria, are matched with regard to sex, age, and race. A letter of explanation of the registry and its function goes to the parents of all babies, risk or control, with an information release form for them to sign for the purpose of sharing medical information. If they choose not to sign the form the child is considered inactive. If they sign and return the form, the child's physician is contacted by letter. He receives an explanation of the registry, together with the signed information release form and a request for him to share information regarding the child every six months until the child reaches age two years. A checklist questionnaire is sent to the physician every six months for this purpose. The physician is advised that he may request a home visit or developmental screening test by the appropriate health department if this is indicated. On receipt by the health department of the questionnaire reporting developmental problems in a child, appropriate helping agencies in the community are recommended to the physician on behalf of the patient by the pediatric consultant.

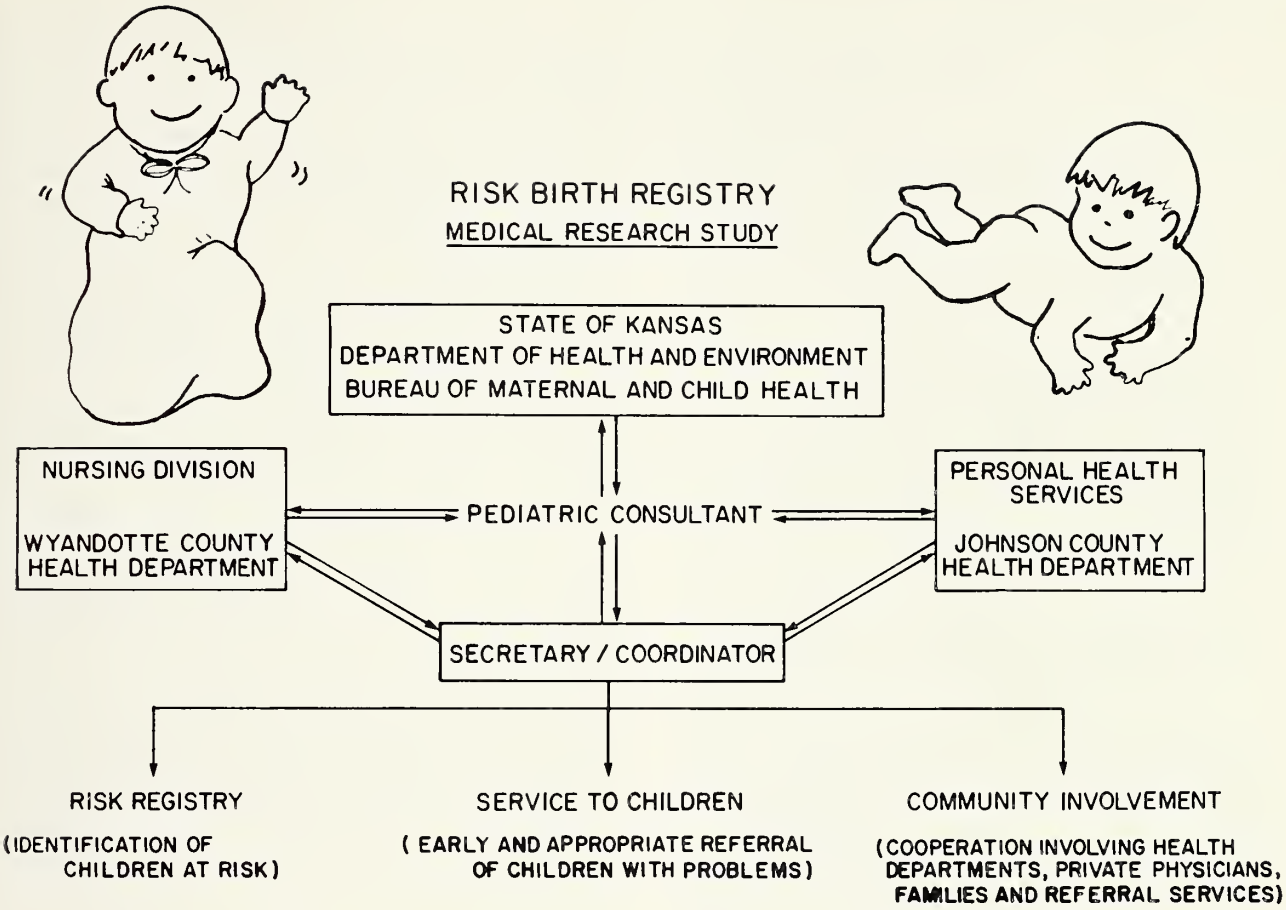

Figure 1. Diagrammatic presentation of the Risk Birth Registry organization of Wyandotte and Johnson Counties.

Results

From the study of live birth certificates for the period September 1, 1975, to October 1, 1976 (using the four-risk criteria listed above), 246 "at risk" babies out of 2,106 live births (11.7%) were identified in Wyandotte County. In Johnson County, 93 of 1,404 (6.6%) were identified as "at risk," and 244 Wyandotte and 90 Johnson County babies were matched as controls *(Table I)*.

An initial letter has been sent to 301 Wyandotte County and 105 Johnson County parents (representing "at risk" and control infants combined as noted in *Table I*). A substantial number of parents could not be found, a lesser number have moved or expressed their interest but said they would be moving soon, and a few were not interested in participating. All of these children are regarded as "inactive" and no attempt is being made to contact them further. The remaining number indicates either that we have received information release forms and have received or are awaiting subsequent information from the physician, or we are still awaiting a reply from the parents. To date, we have received information on 66 Wyandotte and 25 Johnson County babies.

Of the 40 "at risk" babies in Wyandotte County, 20 have either died or have problems and 20 are normal, contrasting with 2 of 26 controls having problems with no deaths. The figures from Johnson County are still small but approximately one third of the "at risk" babies either have problems or have died, while 1 of 6 control babies has problems, with no deaths in this group.

Medical and developmental problems encountered in risk babies from followup information include: (1) macrocephaly; (2) delayed development; (3) myelomeningocoele; (4) bilateral forefoot adduction requiring treatment; (5) congenital hip dislocation with scoliosis and talipes equino varus; (6) cleft lip and palate; and (7) microcephaly with delay in development. Two cases of delayed development with associated strabismus and one case of biliary atresia have been reported in control babies.

TABLE I

FOLLOWUP RESULTS OF "AT-RISK" AND CONTROL BABIES
WYANDOTTE AND JOHNSON COUNTIES
(September 1, 1975-October 1, 1976)

Wyandotte County		*Johnson County*	
Total cases registered	490	Total cases registered	183
"Risk" babies	246	"Risk" babies	93
Control babies	244	Control babies	90

	Wyandotte County		*Johnson County*	
	Risk	*Control*	*Risk*	*Control*
Working total (1st letter sent)	166	135	56	49
Inactive (can't find, moved, not interested)	79	93	21	21
Remainder	87	42	35	28
Not completed* (waiting for response from parent or physician)	47	16	16	22
Information to date	40	26	19	6
No problems	20	24	13	5
Problems	4	2	3	1
Died	16	0	3	0

* These figures are in a constant state of flux, because of on-going correspondence.

Of the 19 known deaths among 91 babies for whom we have definite information, 11 are known to have died the first day of life. One of these babies had all four criteria; three died within the first month; of the remaining five babies who died, one had anencephaly, one had prematurity, low birth weight and respiratory problems, another had prematurity, low birth weight and several anomalies, one died of cardiac arrest; and one child reported as normal at 6 months, died of sepsis with cardiopulmonary arrest at 10 months. There were no known deaths among control babies.

Anomalies noted from birth certificate information are listed in *Table II.*

Discussion

Though ideally all liveborn infants should be considered "at risk" for delayed development and followed methodically for detection of signs of atypical development, this may not be realistic. Until earlier diagnosis

TABLE II

CONGENITAL ANOMALIES NOTED ON BIRTH CERTIFICATES
WYANDOTTE AND JOHNSON COUNTIES
(September 1, 1975-October 1, 1976)

Date	*Sex*	*Anomaly*	*Outcome*
Jan. 1976	F	Anomalies, not listed (also had 3 other criteria)	Moved
Jan. 1976	M	Cleft lip/palate	Medical and surgical follow-up
Jan. 1976	M	Myelomeningocoele	Unable to contact
Mar. 1976	F	Genu recurvatum	Moved
May 1976	M	Multiple anomalies	Died
May 1976	M	Minor problem fingers/toes	Information not yet available
June 1976	F	Gastroschisis	Information not yet available
July 1976	M	Cleft lip/palate (Subsequent pyloric stenosis)	Medical follow-up Surgical follow-up
July 1976	M	Congenital absence of diaphragm (and other 3 criteria)	Died
Aug. 1976	M	Myelomeningocoele	Information not yet available

of atypical development becomes an obsession with health care workers who care for infants and children, some method of labeling babies "at risk" is necessary. With earlier diagnosis, earlier referral can be made to appropriate developmental and stimulation programs.

In the past year, the Risk Birth Registry of Wyandotte and Johnson counties has been successful in designating children with one or more of four "high risk" conditions noted on birth certificates. Followup information indicates that approximately half of the affected babies in Wyandotte County have either died or have chronic problems, and approximately one third of this same group in Johnson County have had a similar outcome. No deaths occurred among control babies although a small number do have developmental problems. One control baby has biliary atresia, a congenital problem not readily diagnosed in the delivery room.

Some problems have been encountered in attempting initial contact with the parents. A large number cannot be located despite repeated attempts to find correct addresses and telephone numbers; a few parents are not interested; and some have moved. All of these babies are then considered inactive. According to a recent article by Zinkin & Cox,[5] the difficult-to-trace population may include many babies with high risk of developmental problems whose families are not utilizing available health care services. This may constitute a population of children found later to have problems in the early school years.

The initial letter to parents explains the registry clearly and simply and attempts to diffuse anxiety related to the implications of an "at risk" label. If possible, the secretary makes a followup telephone call to explain the registry further or answer questions. We have found this early telephone contact to be crucial in gaining cooperation of parents and physicians. Some parents, whose child has had problems at birth or was believed to show possible slow development, have indicated relief that someone was interested in their child.

There has been generally good physician cooperation in completing and returning the questionnaire. One of the most cooperative physicians indicated that the questionnaires might serve as constant reminders to him to pay especially close attention to these children. There has been a request of the health department by one physician to try to locate a child with macrocephaly who had failed to return to his office. Another physician has requested that a Denver Developmental Screening Test be done on a home visit. Physicians and health care workers are encouraged to make such requests of the health department.

Identification of "at risk" children is only one of the goals of the risk registry. The registry must be designed also to benefit the high-risk newborn if it is to be more than a compilation of interesting data on infant morbidity and mortality.

In cases of developmental problems, information on appropriate helping agencies in the community has been shared with the physician on behalf of his patient by the pediatric consultant of the registry. Parents are not given this information directly from the registry unless they request it. Thus, an attempt is made to avoid any encroachment upon the physician-patient relationship. All correspondence is conducted through the two county health departments, and communication channels are open between them, the secretary, and the pediatric consultant.

A major problem of the registry is the large volume of correspondence involved. Recent use of a memory typewriter is helping in the resolution of this. Other problems include the missed diagnosis in the delivery room of congenital anomaly. It has been noted that such problems as Down's syndrome and microcephaly are detected too late in the neonatal period to be included on the birth certificate. Additionally, children residing in Wyandotte or Johnson counties may be born elsewhere, primarily in Kansas City, Missouri.

The Risk Birth Registry is still in its infancy, but it continues to receive periodic developmental assessments. Through the next year it may be easier to determine whether or not its development is normal or atypical. If it proves to be a useful tool, this concept of early and methodical identification and followup can be utilized in other counties in Kansas to aid babies "at risk" so they may receive earlier referral to an appropriate helping facility.

References

1. Lindon, R. L.: Risk register. *Cereb. Palsy Bull.* 3:481, 1961.
2. Sheridan, M. D.: Infants at risk of handicapping conditions. *Monthly Bull. Minist. Health (London)* 21:238, 1962.
3. Oppé, T. E.: Risk register for babies. *Develop. Med. Child. Neurol.* 9:13-21, 1967.
4. Richard, I. D. G. and Roberts, C. J.: The at risk infant. *Lancet* 2:711, 1967.
5. Zinkin, P. M. and Cox, C. A.: Child health clinics and inverse care laws: evidence from longitudinal study of 1878 preschool children. *Brit. Med. J.* 2:411-413, 1976.

SPECIAL DIETS MAY BE HARMFUL TO CHILDREN

The American Academy of Pediatrics Committee on Nutrition has expressed concern about "the recent increase in nutritional practices that are potentially hazardous to the health of children," including the overuse of certain vitamins and the use of a Zen Macrobiotic diet for growing children. The Committee said the beneficial claims made for a variety of special diets "should be subjected to critical, scientific evaluation."

In its statement, the Committee commented on a variety of nutritional practices:

Vegetarian Diets—"Many individuals and population groups have practiced vegetarianism on a long-term basis and have demonstrated excellent results," the Committee said. A problem with the diets is the tendency to be so high in bulk that they may not meet caloric needs. Another problem is the need to supply adequate protein.

Zen Macrobiotic Diet—"Perhaps the most dangerous of the current diets," according to the Committee. The diets progress from lower to higher levels of restriction, gradually eliminating animal products, fruits, and vegetables. The high-level diets, the Committee said, are usually nutritionally unbalanced and low in caloric intake. "Poor growth is the main clinical finding in infancy."

Vitamin A—Large doses of Vitamin A are claimed to be beneficial in the treatment of acne, and to prevent infection. "Such high doses can produce serious toxic effects in children, including anorexia, desquamation of the skin, increased intracranial pressure, and x-ray changes in the long bones," the Committee said.

Vitamins D and E—Various health claims have been made for large doses of both vitamins. There is little or no basis for such claims, the Committee said.

Organic Foods—"Long term studies have failed to show the nutritional superiority of organically grown crops in comparison with those grown under standard agricultural conditions with chemical fertilizers," the Committee said. Noting that organic foods generally are more expensive than their nonorganic counterparts, the Committee said "there is no compelling evidence that the high cost of these products results in concomitant benefit to the consumer."

Diets for Athletes—"There is a widespread misconception that high-protein diets improve athletic performance," the Committee said. Not true. "The major dietary need of athletes is calories, and protein is rarely a limiting factor."

Information for Authors

Manuscript Preparation

Manuscripts must be typewritten, double spaced, leaving wide margins. Submit the original, plus one copy if possible.

Titles should be short, specific, and amenable to indexing. A subtitle is frequently used to keep the main title short.

Summary: All manuscripts should include a short abstract which is a factual (not descriptive) summary of the work.

Author Responsibility: The author is responsible for all statements made in his work, including changes made by the copy editor. Manuscripts are received with the explicit understanding that they are not simultaneously under consideration by any other publication. Publication elsewhere will be subsequently authorized at the discretion of the Editor.

Galley Proof: To make extensive changes in the article after the text has been set in type may require an additional cost which exceeds the original. The galley proof is for correction of ERRORS, and a rewriting of the article should be done on the original copy BEFORE it is submitted for publication.

Drugs should be called by their generic names; the trade names can be added in parentheses if they are considered important. All *units of measure* must be given in the metric system.

References

Bibliographic references should not exceed 20 in number, documenting key publications. Personal communications and unpublished data should not be included. References should be arranged according to the order of citation, and not alphabetically. All references must be numbered consecutively and all must be cited in the text. Use the style of the AMA publications, giving: name of author, title of article, name of periodical, volume, pages, year.

Illustrations

All material which cannot be set in type, such as photographs, line drawings, graphs, charts, tracings (for preparation of tables, see below) must be mounted on white cardboard. All must be identified on the back as to figure number, author's name, and an arrow indicating top. Legends should be typed double spaced on a separate sheet of paper, limited to a maximum of 30 words.

Drawings and Graphs should be done professionally in India ink on illustration board or high grade white drawing paper.

Photographic material should be submitted in duplicate as high contrast, glossy prints. Color illustrations will be accepted for publication only if the author assumes the cost.

THE JOURNAL will assume the cost of B/W engravings and cuts up to $35 (or 5 cuts). Engraving cost for illustrations in excess of $35 will be billed to the author.

Tables

Because tables are set by hand, their cost is comparable to illustrations. A reasonable number of tables are allowed without cost to the author.

Tables should be self-explanatory and should supplement, not duplicate, the text. Since the purpose of a table is to compare or classify related items, the data must be logically and clearly organized. The relationship and comparison are established by the correct choice of column heads (captions of vertical columns) and stubs (left entries in horizontal listings).

Each table should be typed double spaced, including all headings, on separate sheets of lettersize paper. Oversize paper should not be used. Instead, repeat heads and stubs on a second sheet for tables requiring extra width. Number tables consecutively. Each table must have a title.

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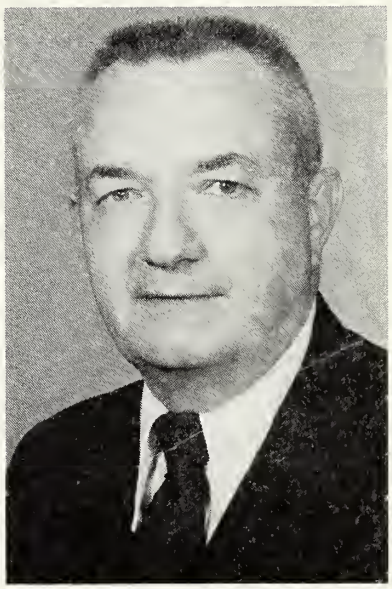
The President's Message



Hi! I'm John Huff
Your genial host for the next 12 months.

In order to get this show on the road,
I need a little help from a friend.
Serving you could be a big load,
Unless a hand you will lend.
Could you take a few minutes in your abode,
Write in your ideas, to give us a trend,
Who knows, we might hit the mother lode,
And be able to travel around the next bend.

Just tell us {where / when / how / why} the following may {have occurred. / be accomplished.}

What {could / did / should} the Kansas Medical Society do {to / about / for / with / without} me?

What {should / will / could} I do {to / about / for / with / without} the Kansas Medical Society?

Fraternally,

John D. Huff M.D.

President

On Second Thoughts

The agents of medical reform have evolved a pattern of function which is downright predictable. Having arrived at some deficiency in the system which needs their corrective attention, they introduce the project as a means of reducing health care costs. Since there is considerable feeling that such costs are too high, this is sure to appeal to a large audience and is known in the trade as the attention getter. This maneuver is followed by the assurance that patients will benefit, which is also popular with the public and helps to neutralize any opposition on the part of the medical profession. After all, physicians can't counter the first without appearing to be more interested in their incomes than in the medical benefits of the matter. They can't counter the second without appearing to be arguing against the patient's welfare especially when, as often happens, the proponents indicate that the project will increase the physician's knowledge and capability which are in woeful need.

Thus it has been discovered that there is an aberration of medical vision which can be corrected by the application of the Second Opinion. Proceeding from the concepts of unnecessary surgery, the belief that patients are unaware—and deliberately kept so—of their options, and the autonomy of the physician, all features which the professional consumerists are anxious to eliminate, it is proposed that in cases in which elective surgery is advised, an opinion will be required from a second physician. This individual will presumably agree or disagree with the necessity of the surgery—there will be no place for "no opinion." If the second-opinion-giver determines that there is no need for surgery, the patient, somehow improved by the experience (but surely in an altered relationship with this primary physician), will return to whatever he was doing before and (1) money will be saved, and (2) the primary physician, having been appropriately educated by the experience, will perform better next time.

Now, it happens that the second opinion is as old as medical practice. It is known as the consultation and differs from the agency-inspired second opinion primarily in the fact that the physician has always assumed unto himself the privilege and obligation to advise—even urge—that the patient seek the opinion of another physician in reaching a decision. The physician is prompted by the recognition that some features of the case transcend his knowledge or experience and he seeks the assistance of a colleague in arriving at the best diagnosis or therapy. It hasn't been a perfect system but its imperfections have been largely, as in the practice of medicine generally, the frailties of any system run by human beings. But the system has an appeal for the physician which is hard for the reformers to understand—it is not coercive. As often happens in reform situations, their zeal to protect requires that a freedom be replaced by a state of requirement.

It would seem necessary for this system to call for some classification and standardization both of procedures and consultants. Will the consultants be academics? Board-certified? The best authority available? In whose judgment? Who will certify the patients of the consultants? Or will the consultants abstain from elective procedures and, if they do, where do they get the expertise to be consultants?

The clout in this little episode will be provided by the insuror, whether governmental or private, since that agency will determine which procedures will be paid for on a basis of what supporting evidence in the opinion of which consultant. If it is determined that surgery is justified, the patient will supposedly return to his primary physician for it, secure in his professional and fiscal approval. In passing, we interject that these references are made to surgery because it can be packaged and labeled handily, but it is obvious that the plan can be adapted to other therapies as rapidly as tolerated.

The proposition of a standardized need test implemented by supposedly disinterested third parties standing as a qualification for payment of insurance benefits requires a little consideration. The supposition, of course, is that

a significant savings will be accomplished in terms of surgical fees and hospitalization costs, because of the anticipated denials of unwarranted surgery. The possibility that the condition may change from elective to emergent to the deteriment of the patient both in health and wealth is, we shall hope, eliminated by the consultation.

Well, for one thing, no one knows how many of these cases will be denied by the consultant, and it is one of those situations which is ripe for the introduction of a lot of figures of questionable origin which will support or deny the benefits, depending upon which side you're on. For example, it has been reported that one such study turned up a figure of 30 per cent in which the second opinion failed to support the recommendation for surgery. (Frankly, we would have thought it would be higher, knowing the general contrariness of physicians. But whether it's accurate or not, it is good enough to toss around a bit.) Assuming that this group keeps its hernias or hemorrhoids or hystera, there will be a bill outstanding for consultations for 100 per cent in order to turn up this undeserving 30 per cent. Obviously this will be less than the cost of operating on all of them, but one wonders if the insuror is going to foot the bill or does the patient accept this as an indemnity to be met before the surgery bill will be honored? And one is also justified in wondering, given the experience with the cost of administering such programs, what the actual savings will be.

There is the possibility, too, that the primary physician may be right—at least righter than the consultant—and the patient would be better served by the treatment than the denial. Elective procedures by definition apply to procedures which are not, at the moment, life-threatening. Consequently, there is nearly always some controversy as to the fact or the timing of their doing, and they are vulnerable to the charge of impropriety. The substance of need, furthermore, tends to be directly proportional to the distance of the consultant from the patient. In these days, when we are urged to look at the whole patient, the primary physician just may be in a better position to know the patient's overall needs and have a more worthy opinion as to management than the one-exposure consultant.

This coercive element is objectionable not just because it excites a knee-jerk reaction on the part of many physicians. It would have the effect (indirectly at first but increasingly directly as time goes on) of imposing a bureaucratic computerized standard of judgment upon the patient. The present system may be flawed but each case comes under consideration on its own merits. It should be well known to the reformers that physicians are subjected to numerous checks and controls. These, we believe (with admitted prejudice), should reduce the abuses to a level at least as low as would obtain if all were exposed to the peculiar abuses which rise from bureaucratic control.

Unless one assumes the whole proposition of electivity to be governed by a mix of medical avarice and incompetence, there seems to be a paradox at work. The patient who is a prospect for this type of therapy has the advantage of deliberate study, diagnosis, and management under favorable conditions. The patient who is afflicted with an emergent situation is the one who stands to gain from consultation not only because he is at compounded risk but also, because of the circumstances, he must be content with the facilities and personnel available. The reformers seem not to have come to that problem yet.

Our personal recommendation for resolution of the whole matter, which we offer to the reformers without charge and preferably without identification, is to legislate it out of existence: declare all surgery to be elective. First, that will keep the consultants so busy doing their own surgery they won't have time to pass judgment on someone else's. But the real justification is that everyone has experienced emergency cases which turned out not to be emergencies after all. Not often, perhaps, but reforms have been built on less. And furthermore, the shifting tides of medical knowledge and practice are constantly changing in our interpretations of what problems are of emergency nature and which are not. Our sacred traditions wither in the light of new learning, and the emergencies of yesterday become the electives of today.

It is perhaps not widely known but this matter was studied—not firsthand, it must be admitted, but avidly from a distance—by a dedicated band of medical observers almost 40 years ago. We can't always remember what day it is, but we clearly recall the time when Ada Leonard, then holding court at the Rialto as queen of the Chicago strippers, was stricken with acute appendicitis. Rather than permit the surgeon's knife to violate that pristine abdomen, Ada elected to tough it out. And with the help of ice packs, some sulfa probably (since that is all that was available in those days), and libations of Fox DeLuxe to the goddess, Ecdysia, by that same group of observers, Ada survived to grind and bump again. The Rialto has since folded as has, in a sense, the panel of observers.

But surgery? Who needs it?—*D.E.G.*

Vox Dox

Vox Dox Editor:

Many people who are allergic to aspirin also are allergic to tartrazine—especially those over 40 with the symptom complex of nasal polyps and asthma. Recent evidence suggests that aspirin sensitivity with or without nasal polyps may be present in children and adults with intrinsic asthma. In fact, some severe asthmatics may be sensitive to aspirin without realizing it.

It has been estimated that 25-80% of those individuals allergic to aspirin are also allergic to tartrazine (yellow dye FD&C #5), which is present in some foods, and it is also present in some drugs. Many patients, as well as physicians, are not aware of this.

One such example is the pain reliever Tylenol, which has been used as a substitute for those sensitive to aspirin—as it contains neither aspirin, nor tartrazine. However, the medication "Co-Tylenol" does contain tartrazine. I was made well aware of this fact because of a patient of mine who was referred to me for angiodema and urticaria.

History revealed that aspirin had been taken just prior to the onset of the urticaria and the angiodema. Elimination of the aspirin resulted in the elimination of symptoms. He was given a list of drugs containing aspirin to avoid, and also a list of drugs and foods containing tartrazine. He was told he could use Tylenol.

The patient returned with severe angiodema and urticaria. He had not taken any aspirin, but he had taken "Co-Tylenol," as it was not mentioned on the list of drugs I had given him. The company which manufactures "Co-Tylenol" did not give a list of their drugs which contained tartrazine. A new list has just come out which does list the drugs containing tartrazine —"Co-Tylenol" is one of these drugs. Tartrazine was not listed on the label of "Co-Tylenol" as one of the ingredients.

This could cause very severe reactions to someone allergic to tartrazine—knowing that they could take "Tylenol"—the similarity of names, "Tylenol" and "Co-Tylenol" is very confusing and could be dangerous.

Claude A. Frazier, M.D.
Asheville, N. C.

Vox Dox Editor:

Regarding the authors' article, "The Respiratory Therapist" the statement was made that "qualifications of the therapist correspond to those of the Physician Assistant type B." To this statement PAs reply hogwash. If the same reasoning is applied, well qualified PAs corresponds to holders of doctoral degrees.

You can readily see therefor that inhalation therapists are not PAs (mid level professionals) and PAs are not MDs. One would expect more responsible editing of such prostitution of terms from your journal.

Charles F. Scott, P.A.
620 Country Club Road, #2D
Pratt, KS 67124

Vox Dox Editor:

The following position statement may be an appropriate response to Mr. Charles E. Scott's letter. This was officially adopted by the Board of Medical Advisors (MDs) and the Board of Directors of the American Association for Respiratory Therapy, July 26, 1974:

PHYSICIANS' ASSISTANT

The classification of Physicians' Assistant should be commensurate with the degree of specialization and level of judgment. The use of the classification reported by the Board of Medicine of the National Academy of Sciences is strongly recommended as a national standard. The Type B assistant best describes the roles and functions of registered respiratory therapists. Registered respiratory therapists, while not equipped with general knowledge, experience and skills relative to the whole range of medical care, possess exceptional specialized skill in respiratory therapy. In the specialty of respiratory therapy, registered respiratory therapists have a degree of skill beyond that normally possessed by a Type A assistant. Accordingly, registered therapists should be recognized as eligible to be Type B Physicians' Assistants.

There is reported to be a statement released by the American Academy for Physicians' Assistants which includes registered respiratory therapists in the Type B category. I am trying hard to locate this, and will send you a copy if I am successful. It would be the perfect rebuttal to Mr. Scott's contention.

Hugh S. Mathewson, M.D.
Professor,
Section of Respiratory Medicine
K. U. M. C.
Kansas City, KS 66103

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*nonobstructed, due to susceptible organisms

Before prescribing, please consult complete product information, a summary of which follows:

Indications: In adults, urinary tract infections complicated by pain (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms (usually *E. coli, Klebsiella Aerobacter, Staphylococcus aureus, Proteus mirabilis,* and, less frequently, *Proteus vulgaris)* in the absence of obstructive uropathy or foreign bodies

Note: Carefully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response; add aminobenzoic acid to follow-up culture media. The increasing frequency of resistant organisms limits the usefulness of antibacterials including sulfonamides. Measure sulfonamide blood levels as variations may occur. 20 mg/100 ml should be maximum total level

Contraindications: Children below age 12; sulfonamide hypersensitivity; pregnancy at term and during nursing period; because Azo Gantanol contains phenazopyridine hydrochloride it is contraindicated in glomerulonephritis, severe hepatitis, uremia, and pyelonephritis of pregnancy with G.I. disturbances

Warnings: Safety during pregnancy not established. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported and early clinical signs (sore throat, fever, pallor, purpura or jaundice) may indicate serious blood disorders. Frequent CBC and urinalysis with microscopic examination are recommended during sulfonamide therapy.

Precautions: Use cautiously in patients with impaired renal or hepatic function, severe allergy, bronchial asthma; in glucose-6-phosphate dehydrogenase deficient individuals in whom dose related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation

Adverse Reactions: *Blood dyscrasias* (agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura hypoprothrombinemia and methemoglobinemia); *allergic reactions* (erythema multiforme, skin eruptions, Stevens-Johnson syndrome, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis), *G.I. reactions* (nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis); *CNS reactions* (headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia); *miscellaneous reactions* (drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L. E. phenomenon). Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia. Cross-sensitivity with these agents may exist.

Dosage: Azo Gantanol is intended for the acute, painful phase of urinary tract infections. *Usual adult dosage.* 2 Gm (4 tabs) initially, then 1 Gm (2 tabs) B.I.D. for up to 3 days. If pain persists, causes other than infection should be sought. After relief of pain has been obtained, continued treatment with Gantanol (sulfamethoxazole) may be considered.

NOTE: Patients should be told that the orange-red dye (phenazopyridine HCl) will color the urine.

Supplied: Tablets, red, film-coated, each containing 0.5 Gm sulfamethoxazole and 100 mg phenazopyridine HCl—bottles of 100 and 500.

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* **Indications:** When the fixed combination represents the dosage determined by titration: Adjunctive therapy in edema associated with congestive heart failure, hepatic cirrhosis, the nephrotic syndrome. Corticosteroid and estrogen-induced edema, idiopathic edema; hypertension, when the potassium-sparing action of its 'Dyrenium' component is warranted.

Contraindications: Further use in progressive renal or hepatic dysfunction; hyperkalemia. Preexisting elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs. Routine use of diuretics in otherwise healthy pregnancy.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in severely ill patients with urine volume less than one liter/day, the elderly or diabetics, with suspected or confirmed renal insufficiency. Periodic determinations of serum K^+ should be made. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **The presence of a widened QRS complex or arrhythmia in association with hyperkalemia requires prompt additional therapy.** Thiazides are reported to cross the placental barrier and appear in breast milk; fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and other adverse reactions that have occurred in the adult may result. When used in pregnancy or in women who might bear children, weigh potential benefits against possible hazards to fetus. Adequate information on use in children is not available.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics, or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spironolactone is used concomitantly, determine serum K^+ frequently; both can cause K^+ retention and elevated serum K^+. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving Dyrenium® (triamterene, SK&F Co.), and leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with thiazides. Do periodic blood studies in cirrhotics to check for nondrug-related variations in blood pictures, and in patients with folic acid depletion, since 'Dyrenium' may contribute to appearance of megaloblastosis. Antihypertensive effect may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

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Sin-Cyb-Syn

(Continued from page 230)

out erythema or pruritis, and the tightness is without visible signs of muscular contraction. Many previously described components of this reaction, *i.e.,* syncope, tachycardia, lacrimation, fasciculation, and nausea can be attributed to anxiety (pseudopostsinocibaldefaciation). Drs. Schaumberg and Byck also found that the reaction is not affected by pretreatment with diphenhydramine, and cannot be simulated by ingestion of equivalent amounts of sodium in the form of sodium chloride or by glutamic acid. Therapies of a pharmacologic nature (hydroxyzine hydrochloride, chlordiazepoxide hydrochloride, or a similar product for the relief of anxiety and tension) and restrictive intake of food have been suggested.

The final word on the subject may well belong to a fourth-year medical student at Johns Hopkins University, who provided the following summation of the subject:

My thanks to this great periodical
For its studies on food so methodical,
Now my clams are full steamed,
And my Chinese food screened,
And my appetite, oh well, much less prodigal.

References

1. Magalini, S.: *Dictionary of Medical Syndromes.* Philadelphia, Lippincott, 1971, p. 104.
2. Kwok, R. H. M.: Chinese restaurant syndrome. *New Eng. J. Med.* 278:1122, 1968.

FRAUD AND ABUSE: A DISTINCTION

The words "fraud" and "abuse" are often used interchangeably in reporting problems with persons and agencies providing service to Medicare and Medicaid patients. But there is a distinction.

The term "fraud" is defined, for purposes of imposing penalties under the Social Security Act, as the making (or causing to be made) of "any false statement or representation" of a material fact "willfully, knowingly, and with intent to deceive." As such, it is subject to conviction of a misdemeanor and fines.

The term "abuse" may include fraud, but is not necessarily fraud.

The term "abuse" is defined as a "corrupt practice or custom; improper use or treatment; or misuse." The term "abuse" is commonly used to refer to overutilization of medical and health services or the provision of services not considered medically necessary. The criminal intent of "fraud" may be absent in such cases.

Less confusion in the public's mind might occur if the terms were not used interchangeably.

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☐	☐	Nationwide program of community emergency medical services
☐	☐	Reform of the tort system of malpractice adjudication
☐	☐	Maximum Allowable Cost (Drug) Regulations
☐	☐	Health Planning Act of 1974
☐	☐	Federal control of the number and location of residences
☐	☐	Federal standards for licensure and relicensure
☐	☐	Federal national health service

If you're for the first five but against the second five, you stand where the AMA stands.

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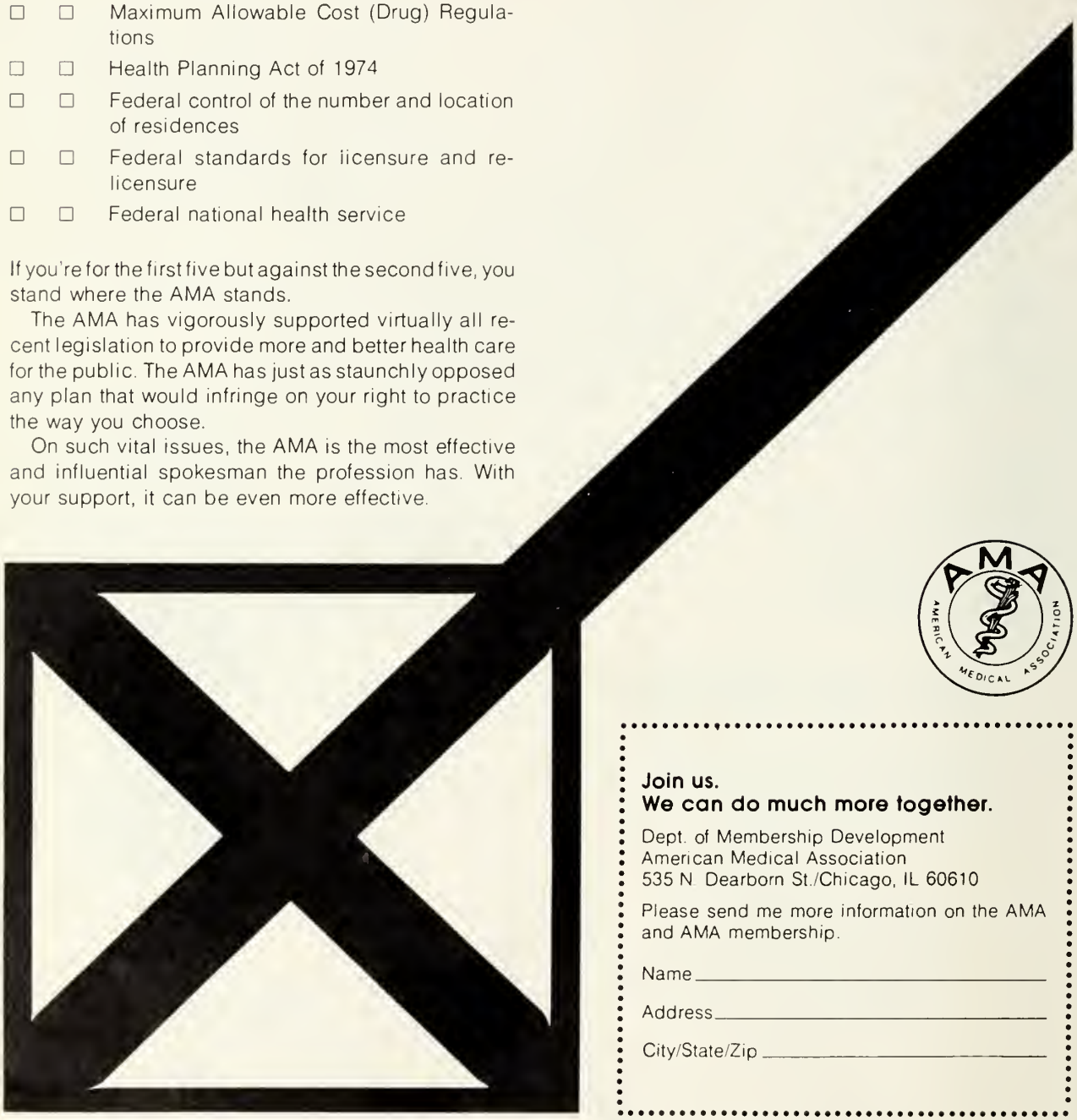

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DISPUTED PATERNITY STUDY

Relatively simple blood tests can rule out paternity in more than 90 per cent of the cases of men who are falsely accused of fathering a child, says a joint report of the American Medical Association and the Section on Family Law of the American Bar Association.

The two professional associations have issued a report entitled: "Joint AMA-ABA Guidelines: Present Status of Serologic Testing in Problems of Disputed Parentage," as the result of five years of collaboration in studying the rapidly growing problem of illegitimacy and paternity in the United States.

There are more than 60 different blood tests that can be applied in efforts to determine paternity, but for practical purposes 7 different tests will suffice. A simple comparison of the six blood group systems will rule out paternity in two-thirds of the falsely accused cases, and several more tests will bring the figure up to more than 90 per cent, the report says.

Although no tests will identify the father with complete certainty, if the accused man is not ruled out by a series of sensitive tests that are more than 90 per cent effective, there is high probability that he is the father, if the mother declares so, says the report.

Despite the availability of liberalized abortions and surgical sterilization procedures, as well as a wide assortment of contraceptive drugs and devices, the number of new illegitimate children is escalating. More than 1,700,000 were born in the five-year period 1966-1970.

Although the overall birth rate is declining, the rate of illegitimate births is increasing, and now is more than 10 per cent of all births. In many urban areas illegitimacy stands at 40 per cent and in some it exceeds 50 per cent, the AMA-ABA report points out.

Thus, law and legal practice are adapting to changing and unchanged social facts—changing in terms of the increased acceptability of illegitimacy and unchanged in terms of each child's right to, and need of, a legal relationship with his father. In most areas the illegitimate child is entitled to legal equality with the legitimate child, but owing largely to defective and antiquated paternity ascertainment procedures, only a very small fraction of illegitimate children now achieve legal relationships with their fathers, the physicians and attorneys declare.

To correct the situation from the legal viewpoint, a Uniform Parentage Act has been drafted and recommended for enactment in all states. From the medical standpoint, the AMA, at the request of ABA, has prepared this report, as an authoritative guide to all parties who deal with the medicolegal problems of disputed parentage: physicians, attorneys, the courts, legislatures, and federal and state health agencies.

The report was published in the fall issue of *Family Law Quarterly,* under the direction of Kenneth W. Sell, M.D., chairman of the AMA Committee on Transfusion and Transplantation, and Harry D. Krause, chairman of the ABA Committee on Standards for the Judicial Use of Scientific Evidence in the Ascertainment of Paternity. The report describes in detail the various tests that may be used to exclude or determine paternity. Reprints are available from the Division of Scientific Activities, American Medical Association, 535 N. Dearborn St., Chicago, Ill. 60610.

Month in Washington

(Continued from page 215)

ment Review Board, or of any reversal, affirmance, or modification by the Secretary.

The five-member Provider Reimbursement Review Board under Medicare hears Medicare appeals by institutional health care providers who disagree with the cost determinations made by health insurance organizations acting as fiscal intermediaries in Medicare hospital insurance.

Under the regulations, a Medicare provider may file for judicial review by a federal court after the final decision of the Provider Reimbursement Board, or the HEW Secretary, but must do so within 60 days of the final decision.

HEW can review any decision of the Board, but must do so within 60 days after the provider has been notified of the Board's decision.

The American Association of Ophthalmology (AAO) has endorsed the national health insurance plan backed by the AMA in a position paper distributed to all members of Congress.

The Association said Ophthalmologists support the concept of legislation proposed by the AMA which "federalizes Medicaid, makes available variable tax allowances toward the purchase of health insurance depending on the taxpayers' taxable income, and offers catastrophic insurance to all."

The AAO said its membership "is aware that improvements are needed in care and financing of care in underserved areas which include the inner city, some remote rural areas, and for certain under-privileged population groups. Also that provision for expensive catastrophic illness is necessary. It is also aware that fiscal limits are dictated lest this nation err as have other countries that have overburdened their taxpayers with excessive program costs."

NEW MEMBERS

The JOURNAL *takes this opportunity to welcome these new members into the Kansas Medical Society.*

Siddanna S. Anurshetru, M.D.
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Winfield, KS 67156

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CATEGORY I CREDIT CONTINUING MEDICAL EDUCATION PROGRAM

The practicing physician is continuously bombarded with brochures and advertisements for Category I credit programs. It is often difficult to determine what programs are truly Category I credit programs.

The AMA recommends that a standard announcement be used for brochures, announcements, etc., concerning the Physician's Recognition Award.

The general format of the announcement is:

"As an organization accredited for continuing medical education, the (NAME OF THE ACCREDITED ORGANIZATION) certifies that this continuing medical education offering meets the criteria for ( ) credit hours in Category I of the Physician's Recognition Award of the American Medical Association, provided it is used and completed as designed."

Please look for this announcement when interested in Category I credit programs.

The practicing physician should be aware that continuing medical education programs in Categories II through VI can also be of great value to the physician's educational program, and should not be overlooked in favor of only Category I credit programs.

ACCREDITED INSTITUTIONS IN KANSAS OFFERING CATEGORY I CREDIT PROGRAMS

(For information on future programs please write to the Director of Medical Education.)

University of Kansas School of Medicine
39th & Rainbow Blvd.
Kansas City, Kansas 66103

Wichita State University Branch of Kansas University School of Medicine
Wichita, Kansas 67219

Menninger Foundation
Box 829
Topeka, Kansas 66601

Hertzler Foundation-Halstead Hospital
Halstead, Kansas 67056

Lawrence Memorial Hospital
325 Maine
Lawrence, Kansas 66044

Shawnee County Medical Foundation
315 W. 4th
Topeka, Kansas 66603

Wesley Medical Center
550 North Hillside
Wichita, Kansas 67214

St. Catherine Hospital
608 N. 5th
Garden City, Kansas 67846

St. Francis Hospital
929 North St. Francis
Wichita, Kansas 67214

Trinity Hospital
1107 Sixth
Dodge City, Kansas 67801

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1818 Touromee Avenue
Kansas City, Kansas 66102

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3600 E. Harry
Wichita, Kansas 67218

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4. Schlesinger, E. R.: Neonatal intensive care. *J. Pediat.* 82: 916, 1973.
5. Butterfield, L. J. and Ryan, G. M.: Childbirth, American style. *JAMA* 233:451, 1975.
6. Hobel, C. J.; Hyvarinen, M. A. and Okada, D. M. *et al.*: Prenatal and intrapartum high-risk screening. *Obstet. Gynec.* 117:1, 1973.

Personalities

James T. Lowman, Kansas City, Kansas, was appointed acting dean of the University of Kansas School of Medicine.

Serving as speaker at a public conference on childhood asthma and allergies, was **Jerry Mathis**, Salina.

Miguel D. Parra, Overland Park, was installed as president of Family Practitioners of Johnson, Wyandotte, and Leavenworth Counties.

Recently elected Credit Women International Boss of the Year was **Newton Smith**, Arkansas City.

Carl W. Plowman, Jewell, was presented with a gold-plated stethoscope by fellow doctors, in recognition of 50 years of medical practice.

Edwards County's Rural Pass Kit Chairman for the Kidney Foundation of Kansas and Western Missouri's 1977 "Gift of Life" Fund Drive is **W. Lynn McKim**, Kinsley.

Alexander J. Laham, Wichita, spoke on "What Is Lupus?" at a meeting of the Wichita chapter of the Lupus Foundation of Kansas.

John Pace, Parsons, was named the 1977 alumnus of the year by the University of Kansas Medical Alumni Assn.

The El Dorado Area Association of Commerce and Industry presented **Glen E. Kassebaum**, El Dorado, with the Erman B. White Distinguished Service Award.

Ray Meidinger, Hiawatha, closed his office after 44 years of medical practice.

The director of the High Plains Mental Health Center, **John Cody**, Hays, spoke at a meeting of the Hutchinson Hospital Development Council.

Daniel B. Cudnik, Winfield, participated in a local training program for Emergency Medical Technicians.

Serving as speaker at the Education-Awareness Program sponsored by the Lyon County Association for Mental Health, is **W. R. Levine**, Emporia.

Phil S. Olson, Augusta, addressed the nurses of Butler, Greenwood, and Cowley Counties at their recent meeting.

OPPOSITION TO MARIJUANA

The American Medical Association this spring has reaffirmed its position that it "does not advocate nor condone the legalization or use of marijuana." The AMA also reaffirmed its position that the penalty for simple possession of marijuana for personal use by individuals in private should be at most a misdemeanor.

In testimony before a congressional committee, Herbert A. Raskin, M.D., former chairman of the AMA Committee on Alcoholism and Drug Dependence, cited a policy opposing marijuana use adopted by the AMA House of Delegates in 1972, and declared: "We have no reason now to alter this view."

Dr. Raskin said: "Although the personal use of marijuana should not be subject to disproportionate criminal penalties, we believe that sufficient evidence exists indicating possible adverse effects on the user.

"We believe that educational programs should be developed to discourage the public from the use of marijuana," he said.

Dr. Raskin said that it is clear that marijuana is an intoxicant that may have undesirable psychological effects. Reports of several research studies in recent years have raised serious and as yet unresolved questions regarding the possible effects of marijuana upon the body's immune mechanisms, testosterone levels in males, and other biological functions, he said.

"If marijuana were legalized, it would only be a short time before sophisticated advertising techniques would be employed to encourage the frequent and widespread use. Under no circumstances do we consider that to be in the public interest."

However, Dr. Raskin said, penalties under existing law for simple possession of marijuana for private personal use "are disproportionate to the act and should be reduced to reflect the known risks and dangers."

LAETRILE

The American Medical Association has reaffirmed its position that there is no scientific evidence that laetrile is effective in treating cancer.

Hearings have been scheduled by the Food and Drug Administration to determine whether the so-called cancer drug laetrile (also known as Vitamin B-17 and Amygdalyn) must comply with the premarketing requirements for "new drugs" under the Food, Drug, and Cosmetic Act.

In a statement submitted to the FDA, AMA stated that "We believe that it is clear that laetrile is not generally recognized by experts qualified to evaluate the safety and effectiveness of drugs as safe and effective. The AMA wholeheartedly supports the efforts of the Food and Drug Administration to require drugs distributed in interstate commerce to comply with the requirements of the law.

"Those who advocate the use of laetrile as a treatment for malignancies in effect exploit the victims of cancer and their families by offering unfounded representations that the patient's cancer will be cured. Patients who are persuaded of the effectiveness of laetrile often postpone seeking proven medical treatment which may eradicate or ameliorate the disease."

Recently, the state of Alaska legalized the use of laetrile and other states are considering such action.

Woman's Auxiliary

Open Letter to the Doctors of Kansas

Dear Friends,

A year filled with exciting challenges and attainable goals is completed. Many of my challenges and goals were met, a few were not attained, but one must be happy with our Auxiliary successes. A long preparation period with much support and assistance from my immediate predecessors, Mrs. Warren Meyer and Mrs. Emerson Yoder, helped me over the rough spots.

During this wonderful year, I have been a guest of all organized county auxiliaries but one. In addition, I also visited the two Resiterns wives groups in Kansas City and Wichita, speaking with and meeting approximately 660 Auxiliary and prospective members.

I have appreciated the opportunity to express my personal thoughts and to share our Auxiliary activities with you, and when I questioned the continuance of this column, many communications reached me urging that the column be continued.

Spring visits included Cowley County and South Central Tri-County auxiliaries. These groups are international health-minded and prepare many hygiene kits. Franklin, Southeast, and Labette counties are very active participating in community service activities; Harvey County members are extremely involved in the International Book Project, and have mailed 9 years of *National Geographic*, a *Book of Knowledge* encyclopaedia, and other magazines and books to overseas missions with a $60 postage bill. Delightful visits with the Resiterns wives in Kansas City and Wichita indicate we have great talent for future Auxiliary members, so please encourage these young, intelligent, and motivated ladies to join your local Auxiliary when they and their young husbands join your community.

The February Mid-Winter board meeting was an outstanding event. Our speakers were excellent, and it was a tremendous sharing and learning experience. The KUMC luncheon, presentations, and tour were marvelous and very educational. The legislative trip was an "eye-opener" to many of us. We believe that the quick activity and immediate response from our members to contact legislators to discuss the medical school tuition bill and related medical bills jarred some senators and also awakened our representatives. I personally typed 34 letters to the House and Senate Ways and Means committees and received very enlightening and a few disturbing replies, and learned there are always two sides to every question.

Auxiliary members were challenged to new innovations in our Auxiliary program this year, and they quickly rose to meet the challenge. We also added our first male member, thanks to our membership chairman, Mrs. Alan Sanders. Active participation in community service projects has greatly increased. In addition to scouting, 4-H, church organizations, PTA and social clubs, members are becoming widely involved in international health participation; politics; KaMPAC; cardiopulmonary resuscitation clinics; Aging and Homebound programs; increased membership in the "Kansans for Improvement of Nursing Homes"; husband-and-wife recreational parties to help improve physical fitness; Doctor's Day dinners, parties, and medical family picnics; volunteering for work in nursing homes; establishing more GEMS (Good Emergency Mother Substitutes) child sitter programs; community recruitment of physicians; gifts of *Today's Health* and *Current Health* to schools; donations to the Occupational Therapy Department at the KUMC; international luncheons using talents of new members from foreign countries; establishment of a portable learning disabilities center; and are seeing many more ladies becoming active hospital auxiliary volunteers.

Our members are becoming more aware of the need for community involvement and, in turn, the communications patterns are becoming better established with your patients, or consumers of medicine as they are called today. No other group are as supportive of medicine as the physician's wife and the Auxiliary, and we sincerely appreciate the encouragement and support we receive from the Kansas Medical Society officers and members, and also the help we receive from the Kansas Medical Society Executive Office in Topeka.

Yes, this has been the most rewarding year of my life, and my Auxiliary friends will always be very dear to my heart. It is sad to say, "Goodbye," but other new challenges are awaiting me. I wish to publicly thank my dear husband, Clair, for his patience, encouragement, and for not complaining when I announced I would be on the road for a few days, and also for his excellent culinary efforts. May he continue his cooking ability!

The gavel and so-called authority were handed to my good friend and successor, Mrs. Dean Burnett; she will strive to continue our excellent Auxiliary programs and projects.

Thanks for everything.

Sincerely,
Jean Cavanaugh
Immediate Past President
Woman's Auxiliary to the
Kansas Medical Society

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Primary Care physicians seeking new group practice opportunities in urban or non-metropolitan areas. Inquiries or CVs may be directed in confidence to: Dr. Ronald L. Hammerle, President, Health Resources, Ltd., 2700 Hospital Drive, PO Box 12621, Kansas City, MO 64116.

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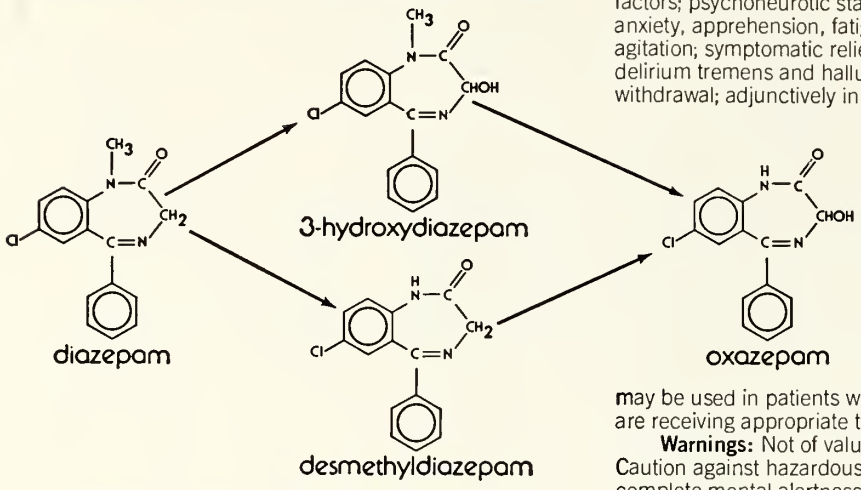
A pharmacokinetic character all its own



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Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome; convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

Usage in Pregnancy: **Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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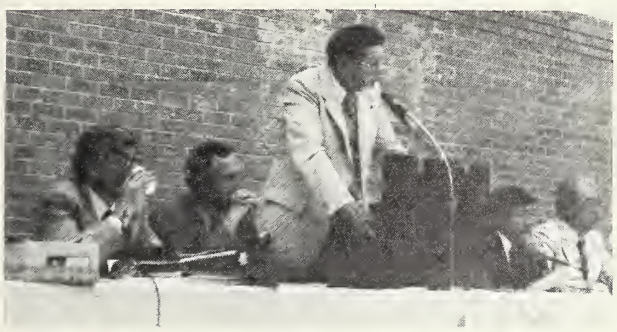
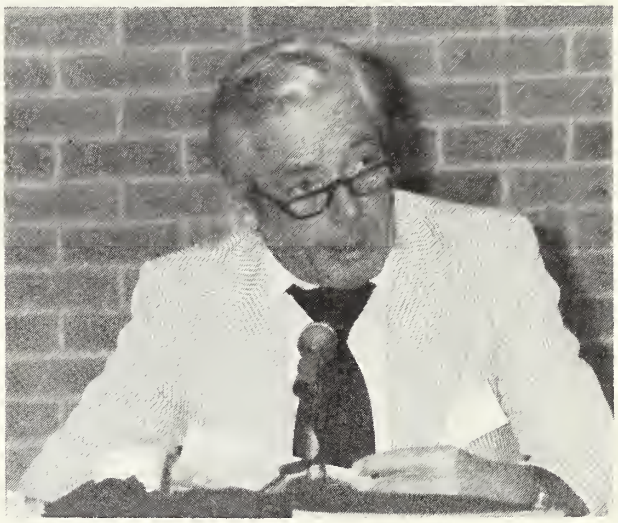
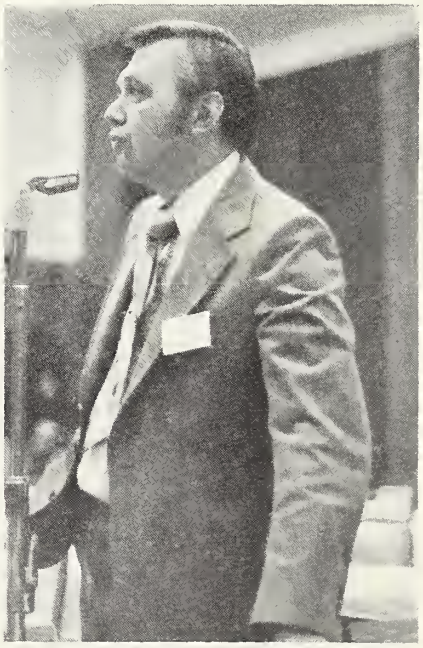




Clockwise from upper right: Robert P. Hudson, Kansas City, Chairman of the Reference Committee; Jimmie A. Gleason, Topeka; Lewis G. Allen, Shawnee Mission; R. Burnley White, Winfield; (l. to r.) Charles R. Jackson, Wichita; Joseph E. McMullen, Hutchinson; Alex Scott, Junction City; Antonio Huaman, Topeka; Carl C. Gunter, Quinter.



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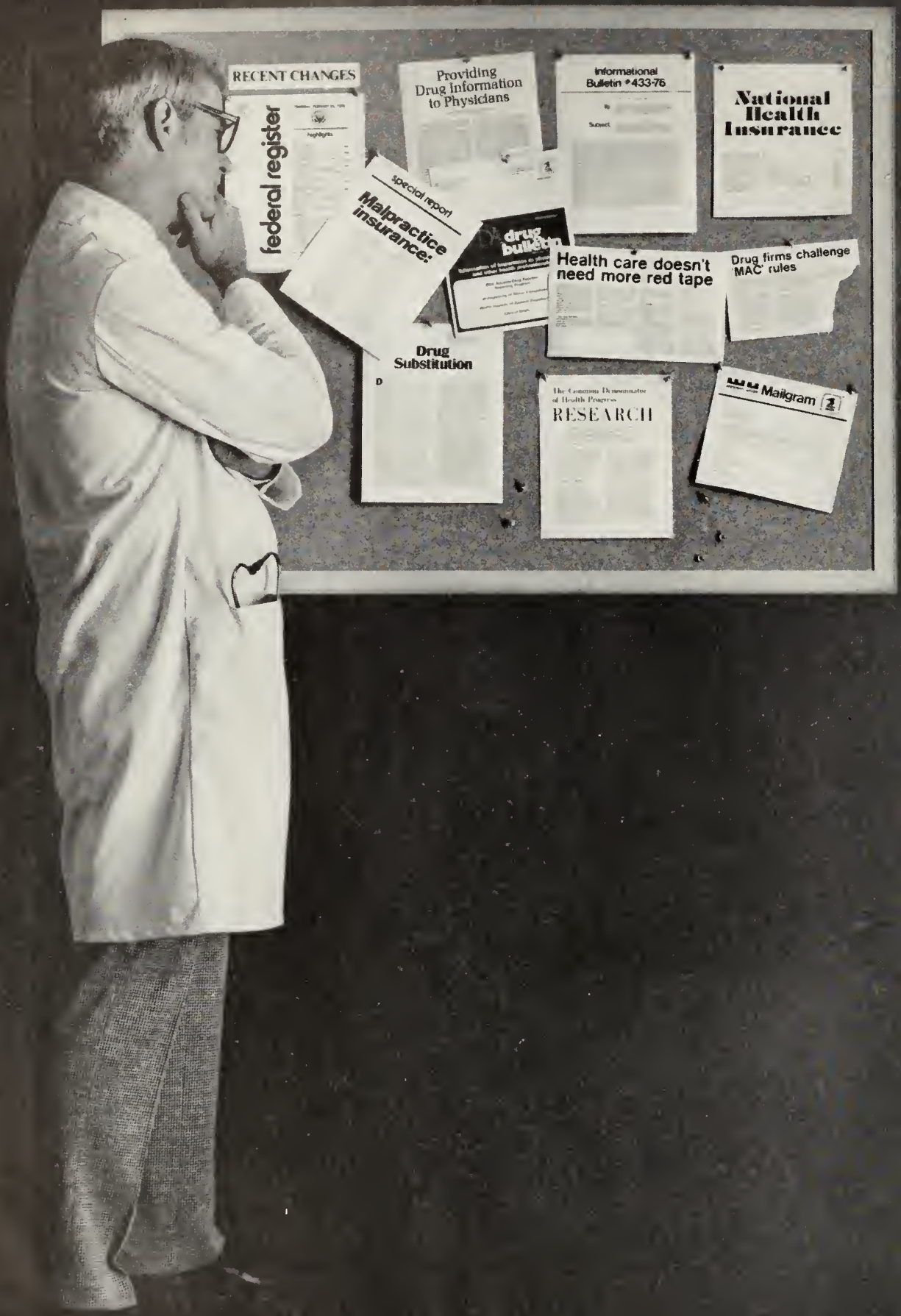
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THERE ARE A LOT OF PEOPLE GETTING BETWEEN YOU AND YOUR PATIENT.

Medicine today is in the spotlight, subjected to all kinds of scrutiny. Your control over patient therapy is being monitored, judged and occasionally abrogated, sometimes by unknown third parties.

The worry is that in the wake of this focus, the relationship between you and your patient will be weakened, without offsetting benefits. Consider three examples:

Drug substitution In most states, pharmacy laws, regulations or professional custom stipulate that your non-generic prescriptions be filled with the precise products you prescribe. But in the last five years, a dozen or more State laws have been changed, permitting the pharmacist in most cases to select a product of the same generic drug to fill any prescription.

Ironically, this dilution of physician control has taken place against a background of growing evidence that purportedly equivalent drug products may be inequivalent, since neither present drug standards nor their enforcement are optimal. In fact, the FDA itself says it has not enforced the same standards for hundreds of "follow-on" products that it had applied to the original NDA approvals. Thus physician control over patient therapy is being eroded with a risk that patients may be exposed to drugs of uncertain quality.

The major advertised claim for substitution is reduced prescription prices for consumers. Yet no documentation of any significant savings has been produced.

MAC Maximum Allowable Cost, MAC for short, is a Federal regulation designed to cut the Government's drug bill by setting price ceilings for drugs dispensed to Medicare and Medicaid patients. Unless the prescriber certifies on the prescription that a particular product is medically necessary, the Government intends to pay only for the cost of the lowest-priced, purportedly-equivalent, generally-available product. The effect of the program may be that elderly and indigent patients will be restricted to products which someone in Washington believes are priced right. Practicing doctors will have little to say about administration of the program, since Government will have absolute authority to make its choices stick.

The drug lag The future of drug and device research depends upon a scientific and regulatory environment that encourages therapeutic innovations. The American pharmaceutical industry annually is spending more than $1 billion of its own funds and evaluating more than 1,200 investigational compounds in clinical research. Disease targets include cancer, atherosclerosis, viruses and central nervous system disorders, among others. But there is a major barrier to the flow of new drugs to your patients: The cost of the research is more than ten times what it was, per product, in 1962; and whereas governmental clearance of new drug applications took six months then, it commonly consumes two years now.

The FDA needs adequate time, of course, to consider data. But it is equally clear that the present approval process contributes to needless delay of needed therapy. That's why the increased efficiency of the drug approval process is vital to all our futures.

If these issues concern you, we suggest that you make your voice heard—among your colleagues and your representatives in State legislatures and in Washington.

It could make a difference in your practice tomorrow.

P·M·A

Pharmaceutical Manufacturers Association
1155 Fifteenth Street, N.W., Washington, D.C. 20005

All oral bronchodilators are pretty much the same. Right? Wrong!

The difference is in their action—both before and after symptoms begin. That's the reason for TEDRAL®.

- □ effective and prolonged bronchodilation from the synergistic effect of ephedrine and theophylline
- □ β-ADRENERGIC ACTION RELAXES BRONCHIAL SMOOTH MUSCLE
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- □ dosage forms to meet individual patient needs

For proven performance...

Tedral®/Tedral® SA/Tedral® Elixir

Each tablet contains 130 mg theophylline, 24 mg ephedrine hydrochloride, and 8 mg phenobarbital.

Each tablet contains 180 mg anhydrous theophylline (90 mg in the immediate release layer and 90 mg in the sustained release layer), 48 mg ephedrine hydrochloride (16 mg in the immediate release layer and 32 mg in the sustained release layer), and 25 mg phenobarbital in the immediate release layer

SUSTAINED ACTION

Each 5 ml teaspoonful contains 32.5 mg theophylline, 6 mg ephedrine HCl, and 2 mg phenobarbital; the alcohol content is 15%.

See next page for brief summary.

WC **WARNER/CHILCOTT**
Division, Warner-Lambert Company
Morris Plains, New Jersey 07950

T-GP-72-B/W

TEDRAL®

TEDRAL® SA Sustained Action

TEDRAL® Elixir

CAUTION: Federal law prohibits dispensing Tedral SA without prescription.

Description. Tedral: each tablet contains 130 mg theophylline, 24 mg ephedrine hydrochloride, and 8 mg phenobarbital.

Tedral SA: each tablet contains 180 mg anhydrous theophylline (90 mg in the immediate release layer and 90 mg in the sustained release layer); 48 mg ephedrine hydrochloride (16 mg in the immediate release layer and 32 mg in the sustained release layer); 25 mg phenobarbital in the immediate release layer.

Tedral Elixir: each 5 ml teaspoonful contains 32.5 mg theophylline, 6 mg ephedrine hydrochloride, and 2 mg phenobarbital; the alcohol content is 15%.

Indications. Tedral, Tedral SA, and Tedral Elixir are indicated for the symptomatic relief of bronchial asthma, asthmatic bronchitis, and other bronchospastic disorders. They may also be used prophylactically to abort or minimize asthmatic attacks and are of value in managing occasional, seasonal or perennial asthma.

Tedral SA (Sustained Action) offers the convenience of b.i.d. dosage.

Tedral Elixir is convenient for persons who may have difficulty in swallowing tablets.

These Tedral formulations are adjuncts in the total management of the asthmatic patient. Acute or severe asthmatic attacks may necessitate supplemental therapy with other drugs by inhalation or other parenteral routes.

Contraindications. Sensitivity to any of the ingredients; porphyria.

Warnings. Drowsiness may occur. PHENOBARBITAL MAY BE HABIT-FORMING.

Precautions. Use with caution in the presence of cardiovascular disease, severe hypertension, hyperthyroidism, prostatic hypertrophy, or glaucoma.

Adverse Reactions. Mild epigastric distress, palpitation, tremulousness, insomnia, difficulty of micturition, and CNS stimulation have been reported.

Average Dosage. *Prophylactic or Therapeutic.*

Tedral: *Adults*—One or two tablets every 4 hours. *Children*—(Over 60 lb) one-half the adult dose.

Tedral SA: *Adults*—One tablet on arising and one tablet 12 hours later. Tablets should not be chewed. *Children*—Not established for children under 12.

Tedral Elixir: Note: One teaspoonful is equivalent to *one-quarter* Tedral tablet. *Children*—One teaspoonful per 30 lb body weight, every 4-6 hours, unless prescribed otherwise by physician. Should be given to children under 2 years of age only with extreme caution. *Adults*—One to two tablespoonfuls every four hours.

Supplied. Tedral: White, uncoated scored tablets in bottles of 24 (N 0047-0230-24), 100 (N 0047-0230-51) and 1000 (N 0047-0230-60). Also in Unit Dose—package of 10 x 10 strips (N 0047-0230-11).

Tedral SA: Double-layered, uncoated, coral/mottled white tablets in bottles of 100 (N 0047-0231-51) and 1000 (N 0047-0231-60). Also in Unit Dose—package of 10 x 10 strips (N 0047-0231-11).

Tedral Elixir: Dark red and cherry-flavored in 474 ml (16 fl oz) bottles (N 0047-0242-16).

STORE BETWEEN 59° and 86°F (15° and 30°C).

Full information is available on request.

Information for Authors

Manuscript Preparation

Manuscripts must be typewritten, double spaced, leaving wide margins. Submit the original, plus one copy if possible.

Titles should be short, specific, and amenable to indexing. A subtitle is frequently used to keep the main title short.

Summary: All manuscripts should include a short abstract which is a factual (not descriptive) summary of the work.

Author Responsibility: The author is responsible for all statements made in his work, including changes made by the copy editor. Manuscripts are received with the explicit understanding that they are not simultaneously under consideration by any other publication. Publication elsewhere will be subsequently authorized at the discretion of the Editor.

Galley Proof: To make extensive changes in the article after the text has been set in type may require an additional cost which exceeds the original. The galley proof is for correction of ERRORS, and a rewriting of the article should be done on the original copy BEFORE it is submitted for publication.

Drugs should be called by their generic names; the trade names can be added in parentheses if they are considered important. All *units of measure* must be given in the metric system.

References

Bibliographic references should not exceed 20 in number, documenting key publications. Personal communications and unpublished data should not be included. References should be arranged according to the order of citation, and not alphabetically. All references must be numbered consecutively and all must be cited in the text. Use the style of the AMA publications, giving: name of author, title of article, name of periodical, volume, pages, year.

Illustrations

All material which cannot be set in type, such as photographs, line drawings, graphs, charts, tracings (for preparation of tables, see below) must be mounted on white cardboard. All must be identified on the back as to figure number, author's name, and an arrow indicating top. Legends should be typed double spaced on a separate sheet of paper, limited to a maximum of 30 words.

Drawings and Graphs should be done professionally in India ink on illustration board or high grade white drawing paper.

Photographic material should be submitted in duplicate as high contrast, glossy prints. Color illustrations will be accepted for publication only if the author assumes the cost.

THE JOURNAL will assume the cost of B/W engravings and cuts up to $35 (or 5 cuts). Engraving cost for illustrations in excess of $35 will be billed to the author.

Tables

Because tables are set by hand, their cost is comparable to illustrations. A reasonable number of tables are allowed without cost to the author.

Tables should be self-explanatory and should supplement, not duplicate, the text. Since the purpose of a table is to compare or classify related items, the data must be logically and clearly organized. The relationship and comparison are established by the correct choice of column heads (captions of vertical columns) and stubs (left entries in horizontal listings).

Each table should be typed double spaced, including all headings, on separate sheets of lettersize paper. Oversize paper should not be used. Instead, repeat heads and stubs on a second sheet for tables requiring extra width. Number tables consecutively. Each table must have a title.

Reprints

A reprint order form with a table covering cost will be sent with the galley proof to each contributor. Since the JOURNAL has no way to provide for reprints, they must be ordered by the author and purchased directly from the printer.

We've come a long way, baby

Forty years ago, many childhood handicaps went undetected. And many babies, like this one, would have grown up to be "problem children" in school, their undiagnosed handicap preventing them from keeping pace with their classmates or perhaps denying them an education altogether.

But today, most difficult-to-diagnose handicaps can be detected early, often at birth. And once handicaps are detected, new ways of teaching handicapped children promise them a better chance than ever for a public education.

Count Your Kid In is a state-sponsored project whose sole purpose is to help parents help their handicapped children. If one of your patients is a handicapped child, from an infant to an 18-year-old, ask his parents to call us toll-free for help and information. You can call us for information on professionals in your area who perform education-related evaluations for handicapped children.

Count your kid in

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Natural balance doesn't always come naturally

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■ **Most Widely Prescribed**—Antivert is the most widely prescribed agent for the management of vertigo* associated with diseases affecting the vestibular system such as Menière's disease, labyrinthitis, and vestibular neuronitis.

■ **Relief of Nausea and Vomiting**—Antivert/25 can relieve the nausea and vomiting often associated with vertigo.*

■ **Dosage for Vertigo*** —The usual adult dosage for Antivert/25 is one tablet t.i.d.

BRIEF SUMMARY OF PRESCRIBING INFORMATION

*INDICATIONS. Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:

Effective: Management of nausea and vomiting and dizziness associated with motion sickness.

Possibly Effective: Management of vertigo associated with diseases affecting the vestibular system.

Final classification of the less than effective indications requires further investigation.

CONTRAINDICATIONS. Administration of Antivert (meclizine HCl) during pregnancy or to women who may become pregnant is contraindicated in view of the teratogenic effect of the drug in rats.

The administration of meclizine to pregnant rats during the 12-15 day of gestation has produced cleft palate in the offspring. Limited studies using doses of over 100 mg./kg./day in rabbits and 10 mg./kg./day in pigs and monkeys did not show cleft palate. Congeners of meclizine have caused cleft palate in species other than the rat.

Meclizine HCl is contraindicated in individuals who have shown a previous hypersensitivity to it.

WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Usage in Children: Clinical studies establishing safety and effectiveness in children have not been done; therefore, usage is not recommended in the pediatric age group.

Usage in Pregnancy: See "Contraindications."

ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

More detailed professional information available on request.

ROERIG Pfizer
A division of Pfizer Pharmaceuticals
New York, New York 10017

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Before prescribing, see complete prescribing information in SK&F Co. literature or PDR. A brief summary follows:

* WARNING
This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

* **Indications:** When the combination represents the dosage determined by titration: Adjunctive therapy in edema associated with congestive heart failure, hepatic cirrhosis, the nephrotic syndrome. Corticosteroid and estrogen-induced edema, idiopathic edema; hypertension, when the potassium sparing action of triamterene is warranted. Routine use of diuretics in healthy pregnant women is inappropriate; they are indicated in pregnancy only when edema is due to pathological causes (see Warnings).

Contraindications: Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spironolactone is used concomitantly, determine serum K+ frequently; both can cause K+ retention and elevated serum K+. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effect may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

Supplied: Bottles of 100 and 1000 capsules; Single Unit Packages of 100 (intended for institutional use only).

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Lasix Tablets have been shown to reduce elevated blood pressure in diuretic-responsive patients.

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Lasix® Tablets (furosemide) 20 mg and 40 mg in hypertension.

A brief summary of the Prescribing Information for
Lasix® (furosemide) Tablets 20 mg and 40 mg

WARNING—Lasix (furosemide) is a potent diuretic which if given in excessive amounts can lead to a profound diuresis with water and electrolyte depletion. Therefore, careful medical supervision is required, and dose and dose schedule have to be adjusted to the individual patient's needs. (See under "Dosage and Administration.")

Indications—Lasix (furosemide) is indicated for the treatment of the edema associated with congestive heart failure, cirrhosis of the liver, and renal disease, including the nephrotic syndrome.

Hypertension—Lasix (furosemide) may be used for the treatment of hypertension alone or in combination with other antihypertensive drugs. Hypertensive patients who cannot be adequately controlled with thiazides will probably also not be adequately controllable with Lasix (furosemide) alone.

CONTRAINDICATIONS—Because animal reproductive studies have shown that Lasix (furosemide) may cause fetal abnormalities, the drug is contraindicated in women of childbearing potential. (See "Additional Information.")

Lasix (furosemide) is contraindicated in anuria. If increasing azotemia and oliguria occur during treatment of severe progressive renal disease, the drug should be discontinued. In hepatic coma and in states of electrolyte depletion, therapy should not be instituted until the basic condition is improved or corrected. Lasix (furosemide) is contraindicated in patients with a history of hypersensitivity to this compound.

Warnings—Excessive diuresis may result in dehydration and reduction in blood volume, with circulatory collapse and with the possibility of vascular thrombosis and embolism, particularly in elderly patients. Excessive loss of potassium in patients receiving digitalis glycosides may precipitate digitalis toxicity. Care should also be exercised in patients receiving potassium depleting steroids.

Frequent serum electrolyte, CO_2 and BUN determinations should be performed during the first few months of therapy and periodically thereafter, and abnormalities corrected or the drug temporarily withdrawn.

In patients with hepatic cirrhosis and ascites, initiation of therapy with Lasix (furosemide) is best carried out in the hospital. Sudden alterations of fluid and electrolyte balance in patients with cirrhosis may precipitate hepatic coma; therefore, strict observation is necessary during the period of diuresis. Supplemental potassium chloride and, if required, an aldosterone antagonist are helpful in preventing hypokalemia and metabolic alkalosis.

Patients should be observed regularly for the possible occurrence of blood dyscrasias, liver damage, or other idiosyncratic reactions.

In those instances where potassium supplementation is required, an oral liquid preparation should be used rather than enteric-coated potassium salts.

There have been several reports, published and unpublished, concerning nonspecific small-bowel lesions consisting of stenosis, with or without ulceration, associated with the administration of enteric-coated thiazides with potassium salts. These lesions may occur with enteric-coated potassium tablets alone or when they are used with nonenteric-coated thiazides, or certain other oral diuretics.

These small-bowel lesions have caused obstruction, hemorrhage, and perforation. Surgery was frequently required, and deaths have occurred.

Available information tends to implicate enteric-coated potassium salts, although lesions of this type also occur spontaneously. Therefore, coated potassium-containing formulations should be administered only when indicated and should be discontinued immediately if abdominal pain, distention, nausea, vomiting, or gastrointestinal bleeding occurs.

Patients with known sulfonamide sensitivity may show allergic reactions to Lasix (furosemide).

Precautions—As with any potent diuretic, electrolyte depletion may occur during therapy with Lasix (furosemide), especially in patients receiving higher doses and a restricted salt intake. Electrolyte depletion may manifest itself by weakness, dizziness, lethargy, leg cramps, anorexia, vomiting, and/or mental confusion.

Asymptomatic hyperuricemia can occur and gout may rarely be precipitated. Reversible elevations of BUN may be seen. These have been observed in association with dehydration, which should be avoided, particularly in patients with renal insufficiency.

When parenteral use of Lasix (furosemide) precedes its oral use, it should be kept in mind that cases of tinnitus and reversible hearing impairment have been reported. There have also been some reports of cases in which irreversible hearing impairment occurred. Usually, ototoxicity has been reported when Lasix (furosemide) was injected rapidly in patients with severe impairment of renal function at doses exceeding several times the usual recommended dose and in whom other drugs known to be ototoxic were often given. If the physician elects to use high dose parenteral therapy in patients with severely impaired renal function, controlled intravenous infusion is advisable (for adults, it has been reported that an infusion rate not exceeding 4 mg Lasix [furosemide] per minute has been used).

Increases in blood glucose, and alterations in glucose tolerance tests with abnormalities of the fasting and two-hour postprandial sugar have been observed, and rare cases of precipitation of diabetes mellitus have been reported.

Lasix (furosemide) may lower serum calcium levels, and rare cases of tetany have been reported.

Patients receiving high doses of salicylates, in conjunction with Lasix (furosemide) may experience salicylate toxicity at lower doses because of competitive renal excretory sites.

Diuretics such as furosemide may enhance the nephrotoxicity of cephaloridine. Therefore, Lasix (furosemide) and cephaloridine should not be administered simultaneously.

Sulfonamide diuretics have been reported to decrease arterial responsiveness to pressor amines and to enhance the effect of tubocurarine. Great caution should be exercised in administering curare or its derivatives to patients undergoing therapy with Lasix (furosemide), and it is advisable to discontinue Lasix (furosemide) for one week prior to any elective surgery.

Adverse Reactions—Various forms of dermatitis, including urticaria and rare forms of exfoliative dermatitis, erythema multiforme, pruritus, paresthesia, blurring of vision, postural hypotension, nausea, vomiting, or diarrhea.

Anemia, leukopenia, aplastic anemia, and thrombocytopenia (with purpura). Rare cases of agranulocytosis which responded to treatment.

In addition, the following rare adverse reactions have been reported; however, relationship to the drug has not been established with certainty: sweet taste, oral and gastric burning, paradoxical swelling, headache, jaundice, thrombophlebitis and emboli and acute pancreatitis.

Lasix (furosemide)-induced diuresis may be accompanied by weakness, fatigue, lightheadedness or dizziness, muscle cramps, thirst, increased perspiration, urinary bladder spasm, and symptoms of urinary frequency.

Dosage and Administration

ADULTS

The usual adult dose of Lasix (furosemide) is 20 to 80 mg given as a single dose.

If the diuretic response with a single dose of 20 to 80 mg is not satisfactory, the following schedule should be used: Increase this dose by increments of 20 or 40 mg not sooner than 6 to 8 hours after the previous dose until the desired diuretic effect has been obtained. This individually determined single dose should then be given once or twice daily. The dose of Lasix (furosemide) may be carefully titrated up to 600 mg per day in those patients with severe clinical edematous states.

With doses exceeding 80 mg/day and given for prolonged periods, careful clinical and laboratory observations are particularly advisable.

Hypertension—The usual dose of Lasix (furosemide) is 40 mg twice daily both for initiation of therapy and for maintenance. Careful observations for changes in blood pressure must be made when this compound is used with other antihypertensive drugs, especially during initial therapy. The dosage of other agents must be reduced by at least 50 percent as soon as Lasix (furosemide) is added to the regimen to prevent excessive drop in blood pressure. As the blood pressure falls under the potentiating effect of Lasix (furosemide), a further reduction in dosage, or even discontinuation, of other antihypertensive drugs may be necessary. It is further recommended, if 40 mg twice daily does not lead to a clinically satisfactory response, to add other hypotensive agents, e.g., reserpine, rather than to increase the dose of Lasix (furosemide).

INFANTS AND CHILDREN

Pediatric Administration: The usual initial dose of oral Lasix in infants and children is 2 mg/kg body weight, given as a single dose. If the diuretic response is not satisfactory after the initial dose, dosage may be increased by 1 or 2 mg/kg not sooner than 6 to 8 hours after the previous dose. Doses greater than 6 mg/kg body weight are not recommended.

For maintenance therapy in infants and children, the dose should be adjusted to the minimum effective level.

How Supplied—Lasix Tablets 40 mg (furosemide) supplied as white, round, monogrammed, scored tablets.

Lasix Tablets 20 mg (furosemide) supplied as white, oval, monogrammed tablets.

Note: Dispense in dark containers. Exposure to light may cause slight discoloration which, however, does not alter potency.

Additional Information

Toxicology

The acute toxicity of Lasix (furosemide) has been determined in mice, rats, and dogs. In all three animal species, the oral LD_{50} of Lasix (furosemide) exceeded 1000 mg/kg of body weight, while the intravenous LD_{50} ranged from 300 to 680 mg/kg. Intragastric injection of the drug in newborn rats resulted in an LD_{50} of 380 mg/kg.

The acute toxicity of high doses of Lasix (furosemide) was characterized by convulsions, paralysis, and collapse. Surviving animals often became dehydrated and depleted of electrolytes due to the diuresis induced by Lasix (furosemide). In the newborn rats, intragastric injection of the drug caused hyperactivity and anorexia.

Chronic toxicity studies with Lasix (furosemide) were done in rats and dogs. In a one-year study in rats, renal tubular degeneration occurred, with all doses higher than 50 mg/kg (4 times the maximal recommended human dose of 600 mg per day). A six-month study in dogs revealed calcification and scarring of the renal parenchyma at all doses above 10 mg/kg (83 percent of the maximal recommended human dose of 600 mg per day).

Reproductive Studies

The effects of Lasix (furosemide) on embryonic and fetal development and on pregnant dams were studied in mice, rats, and rabbits.

Lasix (furosemide) caused unexplained maternal deaths and abortions in the rabbit when 50 mg/kg (4 times the maximal recommended human dose of 600 mg per day) was administered between days 12 to 17 of gestation. In a previous study the lowest dose of only 25 mg/kg (2 times the maximal recommended human dose of 600 mg per day) caused maternal deaths and abortions. In a third study, none of the pregnant rabbits survived a dose of 100 mg/kg. Data from the above studies indicate fetal lethality which can precede maternal deaths.

The results of the mouse study and one of the three rabbit studies also showed an increased incidence of hydronephrosis (distention of the renal pelvis and, in some cases, of the ureters) in fetuses derived from treated dams as compared to the incidence in fetuses from the control group.

HOECHST-ROUSSEL
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SOMERVILLE, NEW JERSEY 08876

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EDITION 5/76

Auxiliary News

Another successful year for the Auxiliary has become history. Jean Cavanaugh has not retired from the Auxiliary—she has just changed responsibilities.

The reports of major committees of your Auxiliary revealed increases in AMA-ERF contributions, legislation activity, and membership (1,303 female and 1 male members). All of this is the result of a high volume of enthusiasm within our membership. Your encouragement and appreciation have been so ably expressed by Drs. Yoder, Kugel and Reed, and Mr. Jerry Slaughter. We hope to improve on the record in the coming year.

The increase in membership did not come easily in the face of the dues raises by the state and national organizations (to $7 per year). Jean and her membership committee worked tirelessly to encourage the moral and financial support of every physician's spouse. Please encourage the spouse in your house to join the Auxiliary. (You will hear the word "spouse" more frequently now that we have gone coed.) The new membership team is chaired by Mmes. Charles McElhinney and Richard Brownrigg, of Dodge City.

Our AMA-ERF Gold Dust Twins from Kansas City, Mmes. John Yulich and Frank Bichlmeier, are opening new gold mines wherever possible. The increase in contributions from physicians was most helpful last year.

Legislation chairman, Mrs. John Rempel, Wichita, is being joined by Mrs. John Young, Shawnee Mission, and Mrs. Calvin Bigler, Garden City. The county legislation committees will function at their instruction. They will continue to keep us informed and alert on the issues, both state and national.

The theme, within the Auxiliary this year, is stressing "Commitment to Family and Community." It encompasses the quality of physical, mental, spiritual and social family health, both within and without the medical family. Community health and service is a natural area of concern for the doctor and spouse. Unfortunately, because of the busy life of the physician, he or she has too little time for community involvement. Therefore, the spouse must share this responsibility. If we do not, others less knowledgable will assume the leadership. Mmes. John Wolfe, Jerold Albright, and Philip Cherven of Hutchinson will be assisting the county auxiliaries in planning needed and wanted programs in their areas. Doctor, please advise your local Auxiliary members of the areas of need that you see. Every new project that they undertake must first be cleared with their local medical society.

It is my privilege and pleasure to serve the Kansas Medical Society Auxiliary, whose purpose it is to help the Society. Your comments, advice, and criticism are herewith solicited. We need them to continue to improve.

Sincerely,
Jackie Burnett
President
Kansas Medical Society Auxiliary

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Scientific ARTICLES

The Deadliest Rupture

Idiopathic Muscular Hypertrophy of the Esophagus

WAYNE E. PENKA, M.D.; WILLIAM D. EDWARDS, M.D.; SHELDON H. PRESKORN, M.D. *and* JOHN J. KEPES, M.D.,
Kansas City, Kansas

Five cases of idiopathic muscular hypertrophy of the esophagus are presented and the cause of this disorder is discussed. Two of the five cases were complicated by spontaneous rupture of the esophagus (Boerhaave's syndrome).

IDIOPATHIC MUSCULAR HYPERTROPHY of the esophagus was first described by Mathew Baillie[1] in 1799, but attracted little interest until Sloper's[1] report of seven cases and review of the world literature in 1954. Sloper discussed the etiologic hypotheses which had been proposed for this disorder, and noted that diffuse lower esophageal spasm was a major pathogenetic factor. In 1974, Katz *et al.*[2] reported the first case of esophageal smooth muscle hypertrophy associated with spontaneous rupture of the esophagus. Five cases of idiopathic muscular hypertrophy of the esophagus are presented, two of which are complicated by esophageal rupture (Boerhaave's syndrome). These represent the second and third cases of esophageal hypertrophy with subsequent rupture reported in the literature.

Case One

Clinical Findings

A 69-year-old white female was admitted to the Kansas University Medical Center on May 15, with the chief complaint of intermittent dysphagia and vomiting for the past 15 years. She related no history of esophagitis. The patient was obese in spite of her prolonged history of vomiting. A stricture of the mid-esophagus was evident by barium swallow and esophagoscopy, and was associated with proximal esophageal dilatation. Esophageal motility studies showed diffuse esophageal spasm and a hypertensive lower sphincter. Clinical diagnosis was achalasia with possible esophageal carcinoma. The patient underwent total esophagectomy on May 21, at which time a hiatal hernia was noted and no carcinoma was found. Postoperatively, the patient had poor wound healing and developed staphylococcal pneumonia. She died on June 8.

Surgical Pathology and Autopsy Findings

At autopsy, the patient was found to have nonunion of the sternal incision, acute fibrinous pleuritis and pericarditis, focal pulmonary atelectasis, and focal pulmonary hemorrhages. However, the esophagectomy specimen was of primary interest. The lower two-thirds of the esophagus was massively hypertrophied, averaging 0.8-1.0 cm in thickness *(Figure 1-A)*. Microscopically, Auerbach's plexus was surrounded and infiltrated by lymphocytes and plasma cells *(Figure 2-A)*, and the hypertrophic circular smooth muscle layer was heavily infiltrated predominantly by eosinophils. Auerbach's plexus in the remainder of the digestive system was histologically normal.

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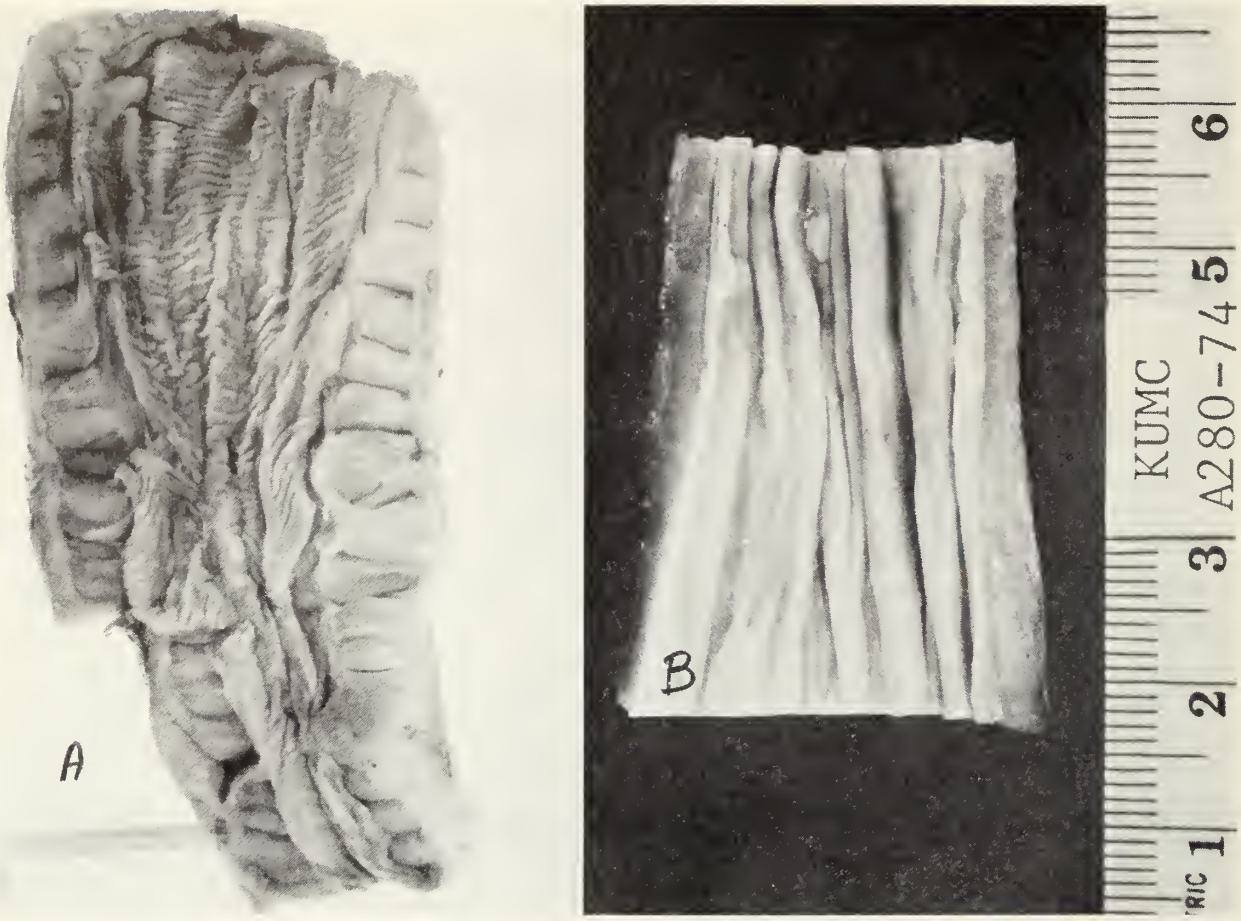

Figure 1. Gross photographs of muscular hypertrophy of the esophagus. Note preferential involvement of circular muscle layer (A, Case 1; B, Case 4).

Case Two

Clinical Findings

A 65-year-old white male experienced abdominal bloating and sudden epigastric pain following ingestion of a heavy meal on February 11. The patient soon experienced vomiting and coughing. The diagnosis of acute myocardial infarction was originally considered, since he experienced such an attack the previous December. The patient's clinical condition deteriorated, and he was transferred to KUMC on February 15. Chest x-ray at that time showed the patient had widened mediastinum and left-lower lobe atelectasis. Aspirated pleural fluid from the left lobe was consistent with gastric secretions. Distal esophageal rupture was diagnosed by esophagoscopy, and the patient underwent distal esophageal transection-ligation, gastrostomy, and cervical esophagostomy. He died of cardiac arrest the following day.

Autopsy Findings

Bilateral hemothorax, severe mediastinitis and fibrinopurulent pleuritis, and healed inferoseptal myocardial infarct associated with remote right coronary artery occlusion were discovered at autopsy. Postmortem cultures of blood and mediastinal tissues grew *proteus mirabilis*. A 4-cm linear transmural perforation of the posterolateral wall of the distal third of the esophagus was present. Esophageal hypertrophy was marked, and the mid-esophagus averaged 0.8 cm in thickness, while the distal esophageal wall averaged 1.0 cm. Microscopically, the muscular hypertrophy and hyperplasia involved both the circular and longitudinal layers. Lymphocytic infiltrates involved Auerbach's plexus and were more extensive in the distal, than mid-esophagus area. Focally, lymphocytes surrounded individual ganglion cells *(Figure 2-B)*. Patchy fibrosis of the proximal esophagus was also noted. No abnormali-

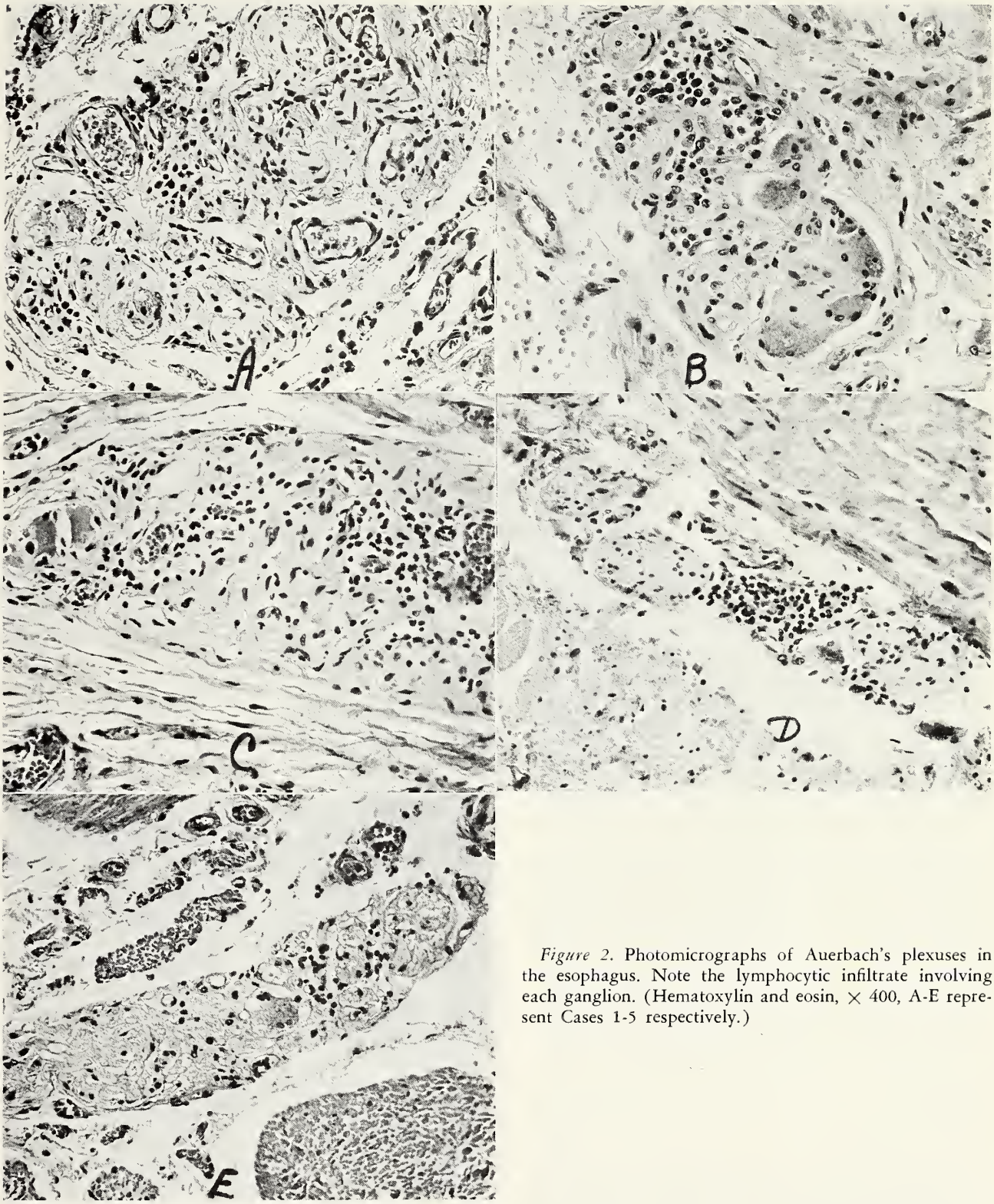

Figure 2. Photomicrographs of Auerbach's plexuses in the esophagus. Note the lymphocytic infiltrate involving each ganglion. (Hematoxylin and eosin, × 400, A-E represent Cases 1-5 respectively.)

ties of Auerbach's plexus in the remainder of the gastrointestinal tract were found.

Case Three

Clinical Findings

A 47-year-old white male was admitted to KUMC on June 18, with the chief complaint of decreasing vision. He had experienced transitory numbness on the left side of the body and face three months previously, followed several days later by scotomas and sudden bilateral loss of the inferior visual fields. During hospitalization, the patient was noted to have type IV hyperlipoproteinemia, a history of smoking 60 packs/year, and of chronic abuse of ethanol. He experienced tonic-clonic seizures on June 21, followed by coma with bilateral Babinski's sign, absent doll's eye reflexes, and negative calorics. The patient died later that day.

Autopsy Findings

Complete thrombotic occlusions of the basilar artery, left vertebral artery, and right calcarine artery were revealed at autopsy. These lesions were associated with symmetric bilateral occipital lobe infarcts, which predominantly involved both cuneus gyri but spared the lingula. The infarcts were several weeks to several months in age, as was an infarct of the left cerebellar hemisphere. Early changes of ischemia were noted in the pontine and medullary nuclei, consistent with terminal brainstem infarct 6-12 hours in age. The patient also had mild centrilobular emphysema and severe coronary atherosclerosis with several healed myocardial infarcts. Another unsuspected autopsy finding was diffuse muscular hypertrophy of the distal half of the esophagus. In these areas, the esophageal wall averaged 0.7-0.8 cm in thickness; the hypertrophy was limited to the circular muscle layer. Microscopically, Auerbach's plexus was infiltrated by lymphocytes and plasma cells *(Figure 2-C)*. In addition, a very striking inflammatory infiltrate, comprised almost entirely of eosinophils, spread diffusely through the hypertrophied circular smooth muscle layer. Auerbach's plexus in other regions of the digestive tract was normal.

Case Four

Clinical Findings

A 69-year-old white male had a history of smoking 100 packs/year and a 4-year history of chronic obstructive pulmonary disease. He also had a history of aortic stenosis, cholelithiasis, and colonic diverticula. On admission to KUMC on December 1, the patient complained of a recent weight loss of 9 kg, weakness, low-grade fever, productive cough, and a one-day history of melena. Chest roentgenogram revealed a right hilar prominence and changes of chronic obstructive pulmonary disease. Throughout the hospitalization, the patient had continued gastrointestinal bleeding from undetermined sites, and later developed disseminated intravascular coagulopathy. Carcinoma of the lung or gastrointestinal tract was suspected clinically, however, the patient died on December 4, before such diagnosis could be established.

Autopsy Findings

Centrilobular emphysema and peripheral pulmonary interstitial fibrosis were evident at autopsy. A small cell anaplastic (oat cell) carcinoma of the right-lower lung lobe was associated with widespread visceral metastases. Sources for the patient's gastrointestinal hemorrhages included gastric ulcers, colonic ulcers, and diverticulitis. As an incidental autopsy finding, the esophagus was diffusely hypertrophied and averaged 0.5-0.7 cm in thickness *(Figure 1-B)*. Microscopically, the muscular hypertrophy primarily involved the circular muscle layer and to some extent the muscularis mucosae. Lymphocytes were scattered throughout the submucosa and were noted in the muscularis localized to Auerbach's plexus *(Figure 2-D)*. The myenteric plexus in the remainder of the digestive tract was normal.

Case Five

Clinical Findings

A 72-year-old white female had a history of smoking 31 packs/year and had had numerous KUMC hospitalizations during the past ten years for treatment of severe chronic obstructive pulmonary disease. On the day of admission of her last hospitalization (April 10), she experienced one episode of vomiting of hemoccult-positive vomitus. The patient was in acute respiratory distress and complained of epigastric discomfort. She was treated with oxygen, antibiotics, aminophylline, corticosteroids, and digoxin. The patient's hospital course was complicated by numerous atrial arrhythmias, hypoxia, hypercapnia, acidosis, hypertension, hyperglycemia, lymphopenia, neutrophilia, steroid psychosis, and *E. coli* cystitis. The patient died on May 3.

Autopsy Findings

Severe panacinar emphysema and mild chronic bronchitis, cor pulmonale, manifestations of iatrogenic Cushing's syndrome, and acute renal tubular necrosis were evident at autopsy. Clinically unsuspected was the autopsy finding of a 3.2-cm linear transmural tear of the left lateral wall of the distal supradiaphragmatic

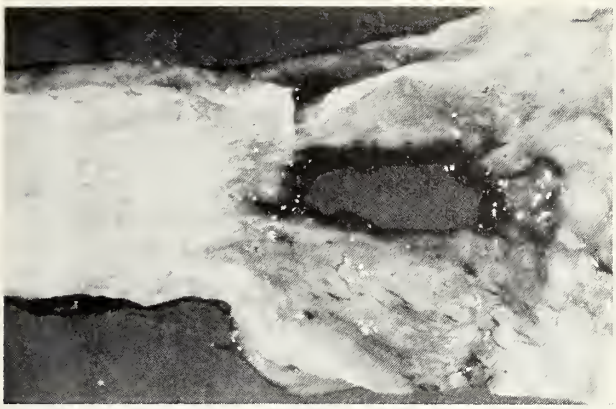

Figure 3. Gross photograph of ruptured esophagus. The linear transmural tear involved the posterolateral portion of the distal supradiaphragmatic esophagus (Case 5).

esophagus *(Figure 3)*. Acute mediastinitis with mediastinal emphysema was associated with this condition. The esophageal wall averaged 0.4-0.5 cm in thickness throughout its length, and histologically both the circular and longitudinal muscle layers were hypertrophied. Microscopically, lymphocytes were noted within Auerbach's plexus *(Figure 2-E)*. Auerbach's plexus throughout the remainder of the digestive tract was not associated with lymphocytic infiltrates. However, in the vermiform appendix, Auerbach's plexus was haphazardly distributed within circular and longitudinal muscles, rather than between them, and a neuromatous proliferation of Meissner's plexus was also encountered.

Comment

Five cases of idiopathic muscular hypertrophy of the esophagus were reviewed from the autopsy records at KUMC, 1969-1976. Ante mortem diagnosis of this disorder was not established in any of the cases, although diffuse esophageal spasm and a hypertonic lower esophageal sphincter were noted in *Case One*. Gastroesophageal symptoms were present in three of the five cases *(Table I)*. Age range was 47-72 years (mean age, 64) ; two of five patients were female.

The hypertrophy diffusely involved the esophagus in two cases and was limited to the distal esophagus in the remaining three patients. The wall thickness varied from 0.4 to 1.0 cm. Preferential hypertrophy of the esophageal inner circular muscle was noted in three cases, while both the inner circular and outer longitudinal muscles were hypertrophied in the other two cases. Lymphocytic inflammation involved the ganglia of Auerbach's plexus in all cases. Marked eosinophilic inflammation of the hypertrophied circular muscle layer was present in *Cases One and Three*. In all cases, both the muscular hypertrophy and the inflammation of Auerbach's plexus ended abruptly at the cardioesophageal junction, and were not present elsewhere in the gastrointestinal tract. Two of five cases were complicated by linear transmural tears of the left posterolateral wall of the distal supradiaphragmatic esophagus (Boerhaave's syndrome) ; fulminant mediastinitis resulted from this condition and led directly to the deaths of the patients.

In Sloper's[1] excellent review of idiopathic muscular hypertrophy of the esophagus, 7 cases were added to the other 25 cases in the world literature at that time, and Sloper noted that the primary clinical finding was diffuse lower esophageal spasm, as was present in our *Case One*. Sloper's summary of gross and microscopic findings was similar to our findings, including hypertrophy of the distal half of the esophagus without significant luminal narrowing and ending at the cardioesophageal junction, smooth muscle hypertrophy and hyperplasia primarily involving the inner circular layer, and lymphocytic infiltrates of the esophageal Auerbach's plexus. Sloper discussed six etiologic hypotheses: (1) idiopathic; (2) neoplastic or leiomyomatous; (3) myopathic with primary dysfunction; (4) congenital; (5) inflammatory; and (6) reflex vagal overactivity. Only the latter three are supported by literature; these will be discussed below.

A congenital cause of muscular hypertrophy of the esophagus is most plausible in the cases occurring in children and in those patients who experience both esophageal and pyloric hypertrophy.[1] Infants with pyloric hypertrophy may develop gastric dilatation with subsequent dilatation and hypertrophy of the esophagus. Blank and Michael[3] reported a case of esophageal muscular hypertrophy with normal Auerbach's and Meissner's plexuses in a 20-month-old female, and they briefly reviewed previous literature reports of this disorder in four children, two of whom also had pyloric stenosis. Spencer and Hudson[4] have reported a case of muscular hypertrophy of the esophagus, stomach, pylorus, duodenum, jejunum, and ileum in a 3-year-old male, and found only two other reported cases of diffuse gastrointestinal muscular hypertrophy in children. However, they noted that 3 of 17 adults reported to have esophageal hypertrophy also had pyloric hypertrophy. In many of these cases congenital cause is most likely.

The presence of eosinophils within the hypertrophied esophageal muscularis and the lymphocytes within Auerbach's plexus has been proposed as the cause for inflammation and the esophageal hypertrophy.[1] However, no organisms have been known to exist in the esophageal wall in this disorder. Two of our five cases

had marked eosinophilic infiltrates, and a state of hypersensitivity has been previously proposed to explain this; the supporting evidence is lacking, however. All of our cases had a lymphocytic infiltrate of Auerbach's plexus, and an autoimmune disorder has been proposed, but has not been studied sufficiently. Other concomitant and autoimmune disorders were not present in our cases and have not been reported in the literature.

Several reports support the hypothesis that esophageal hypertrophy is associated with vagal overactivity. In a review comparing cardiospasm to diffuse esophageal spasm, Johnstone[5] noted that diffuse spasm as opposed to cardiospasm was characterized by: (1) absence of esophageal dilatation; (2) normal Meissner's plexus; (3) marked diffuse smooth muscle hypertrophy; (4) absence of response to parasympathomimetic amines; and (5) association with inflammation accompanying peptic ulcer disease and hiatal hernia with esophagitis. Helmke[6] has proposed that the frequent presence of upper abdominal lesions in patients with diffuse esophageal spasm is evidence of vagal overactivity, and Samuel[7] has suggested that esophagitis and peptic ulcers may be major etiologic factors in diffuse esophageal spasm. Torrance[8] has shown that stimulation of the cervical vagi in cats causes contraction of longitudinal esophageal muscles with resultant hiatal hernia and reflux esophagitis, thus supporting both the vagal overactivity and the hypothesis of inflammatory esophageal muscular hypertrophy. Torrance also noted a similar physiologic response when vomiting was induced in cats. Kopes[9] has proposed that the inflammatory process within Auerbach's plexus may directly lead to parasympathetic overactivity by irritation

TABLE I

SUMMARY OF FIVE CASE REPORTS OF IDIOPATHIC MUSCULAR HYPERTROPHY OF THE ESOPHAGUS

Case	*Age*	*Sex*	*Pertinent Clinical History*	*Gross Findings*	*Microscopic Findings*	*Esophageal Auerbach's Plexus*	*Esophageal Rupture*
1.	69 yrs.	female	Intermittent dysphagia and vomiting x 15 years.	Hypertrophy of distal 2/3 of esophagus. 0.8 to 1.0 cm. thick.	Hypertrophy primarily of inner esophageal circular muscle, with marked eosinophilic infiltrate.	Lymphocytic infiltrate in distal esophagus	Absent
2.	65 yrs.	male	Epigastric and chest pain, associated with vomiting.	Hypertrophy of mid-esophagus (0.8 cm) and distal esophagus (1.0 cm).	Hypertrophy of both circular and longitudinal esophageal smooth muscle.	Focal lymphocytic inflammation of distal esophagus.	4-cm linear transmural tear of distal left posterolateral wall.
3.	47 yrs.	male	None	Hypertrophy of distal half of esophagus, 0.7 to 0.8 cm thick	Hypertrophy limited to esophageal circular muscle layer. Marked eosinophilic infiltration of smooth muscle.	Lymphocytic and plasmacytic infiltrate throughout esophagus.	Absent
4.	69 yrs.	male	None	Diffuse esophageal muscular hypertrophy, 0.5 to 0.7 cm thick.	Hypertrophy primarily of esophageal circular muscle layer.	Lymphocytic infiltration around ganglion cells.	Absent
5.	72 yrs.	female	Hemoccult-positive vomitus on hospital admission.	Moderate diffuse esophageal hypertrophy, 0.4 to 0.5 cm in thickness.	Hypertrophy of both circular and longitudinal muscle layers of esophagus.	Lymphocytic inflammation.	3.2-cm linear transmural tear of distal left posterolateral wall.

of ganglion cells. By electron microscopy of nerve branches within hypertrophied esophagi, Cesella *et al*[10] have found only nonspecific degenerative changes. Vagal over-activity or inflammation probably were of primary importance in the cause of the esophageal muscular hypertrophy in our five cases.

Another pertinent finding in our series was the presence of esophageal rupture (Boerhaave's syndrome) in two of five patients, both of whom also had a history of vomiting. Spontaneous esophageal rupture was first described by Boerhaave[11] in 1724; it is considered the most rapidly fatal perforation of the digestive system; prompt diagnosis and surgical intervention are mandatory. Surgical mortality is 30-35 per cent.[12, 13] Death is almost always attributable to mediastinitis with shock, sepsis, and hypovolemia. The nonoperated cases have experienced 25 per cent mortality after 12 hrs; 35 per cent after 24 hrs; 90 per cent after 48 hrs; and 100 per cent mortality after seven days. Ante mortem diagnosis of ruptured esophagus was made in our *Case Two*. Two patients in our series died with extensive mediastinitis.

The esophageal rupture characteristically occurs as a linear tear of the left posterolateral wall of the distal supradiaphragmatic esophagus,[11, 12] as was seen in two of our cases. Although the pressure needed to rupture cadaveric esophagi has been shown by Mackler[13] to be within physiologic range (250-425 cm H_2O), the speed at which such pressure is reached is of primary etiologic import. At least 50 per cent of cases of esophageal rupture are associated with protracted and probably nonsynchronous vomiting.[12, 13] The vomiting reflex is very complex, requiring synchronous relaxation and contraction of many voluntary and involuntary muscles. Nonsynchronous vomiting could result in simultaneous contraction of the upper esophageal sphincter, the diaphragm and the abdominal muscles, resulting in marked rapid rise of esophageal intraluminal pressure and possible esophageal rupture. Such esophageal perforations may also be associated with straining at defecation, weight lifting, severe coughing, parturition, seizures, blunt trauma, esophagitis, asthma, central nervous system diseases, and disulfiram (Antabuse) therapy.

References

1. Sloper, J. C.: Idiopathic diffuse muscular hypertrophy of the lower oesophagus. *Thorax* 9:136-146, 1954.
2. Katz, S. J.; Lieberman, A. and Hechtman, H. B.: Spontaneous perforation of the esophagus associated with smooth muscle hypertrophy. *Amer. J. Surg.* 127:338-341, 1974.
3. Blank, C. and Michael, T. D.: Muscular hypertrophy of the esophagus: Report of a case with involvement of the entire esophagus. *Pediatrics* 32:595-598, 1963.
4. Spencer, R. and Hudson, T. L.: Idiopathic muscular hypertrophy of the gastrointestinal tract in a child. *Pediat. Surg.* 50:678-686, 1961.
5. Johnstone, A. S.: Diffuse spasm and diffuse muscle hypertrophy of lower esophagus. *Brit. J. Radiol.* 33:723-735, 1960.
6. Helmke, K.: Über Oesophagushypertrophie. *Virchow. Arch. (Path. Anat.)* 304:79-86, 1939.
7. Samuel, E.: Peptic oesophagitis and ulceration. *S. Af. Med. J.* 26:1010-1013, 1952.
8. Torrance, H. B.: Studies on the mechanism of gastro-oesophageal regurgitation. *J. Roy. Coll. Surg. Edinb.* 4:54-62, 1958.
9. Kepes, J. J.: Clinicopathologic conference. *New Physician* 19:671-676, 1970.
10. Casella, R. R.; Ellis, F. H., Jr. and Brown, A. L., Jr.: Diffuse spasm of the lower part of the esophagus. *JAMA* 191:107-113, 1965.
11. Boerhaave, H.: Atrocis, nec descripti prius morbi historia. Secundum medicae artis leges conscripta. *Bull. Med. Libr. Assoc.* 43:217, 1955.
12. Curci, J. J. and Harman, M. J.: Boerhaave's syndrome: The importance of early diagnosis and treatment. *Ann. Surg.* 183:401-408, 1976.
13. Mackler, S. A.: Spontaneous rupture of the esophagus: An experimental and clinical study. *Surg. Gyn. Obstet.* 95: 345-356, 1952.

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Carotid Atherosclerosis

Diverse Angiographic Patterns and Surgical Considerations

KENDRICK C. DAVIDSON, M.D.; JOE A. PINKERTON, JR., M.D. *and*
JEAN WEISS, R.T., *Kansas City, Missouri*

ANGIOGRAPHIC RECOGNITION and surgical treatment of symptomatic ulcerated atheromata of the cervicocephalic arteries has led to the successful management of transient ischemic attacks (TIA), reversible ischemic neurological deficits (RIND), and the prevention of further strokes in selected patients. Patients with unilateral carotid disease and clearly defined transient neurological deficits in the appropriate cerebral territories have been particularly responsive to surgical treatment.[1-3] Patients who present with amaurosis fugax due to retinal artery embolization have a very high incidence of carotid atherosclerosis.[4] Carotid endarterectomy is recommended for atheromatous carotid disease when eye symptoms or coincident retinal cholesterol emboli (Hollenhorst plaques) are observed.[5] Long-term followup evaluation of patients undergoing carotid endarterectomy has shown a very low incidence of ipsilateral symptoms.[6] Recurrent atherosclerotic disease and stenosis following carotid endarterectomy is very uncommon, but its occurrence is well documented.[7]

Criteria for the diagnosis of atheromatous ulcers and emboli have previously been considered in detail and the need for thorough angiographic investigation emphasized.[8-15]

The angiographic demonstration and recognition of ulcerative carotid atheromata has in the past been limited by the quality of arteriograms, but with the progressive improvement in catheter angiography, including safer contrast media, magnification and subtraction techniques, multiple angiographic projections and the use of atraumatic steerable catheters, the demonstration and recognition of carotid ulcers and atheromata may approach 86 per cent effectiveness.[8] Current surgical management of extracranial cerebrovascular disease requires a complete evaluation of the extent of atherosclerotic disease in both carotid and vertebral arteries. This is best done using arch aortography with selective catheter study of branch vessels as needed, to evaluate and clearly define the common and unusual pathologic lesions which may cause symptoms.[9-11] The combination of a retrograde right brachial artery injection and percutaneous left carotid arteriogram will provide adequate information in many patients, but it presents the following disadvantages:

1. Failure to visualize the proximal portion of the innominate and left carotid arteries and the entire left subclavian and left vertebral arteries;

Attention is directed to the diverse angiographic appearance of atheromatous ulcers of the carotid and other cervicocephalic vessels. Unusual sites of atheromatous ulcers, with and without segmental atheromatous narrowing, internal carotid thrombi with minimal antegrade carotid flow simulating obstruction, and unusual presentations of the carotid bifurcation are reviewed. The discussion points out the attendant surgical considerations related to endarterectomy in patients with these situations and other variations.

2. Frequent superimposition of the right carotid and vertebral arteries on the x-ray film, which may confuse interpretation of the pathologic lesion;

3. This technique may be unproductive with arch anomalies, such as the aberrant origin of the right subclavian artery from the descending thoracic aorta or aortic origin of the left vertebral artery in those instances where left retrograde brachial injection is added to the examination.

Standard positions and special oblique projections combined with selective catheter angiography may be necessary to demonstrate unusual atherosclerotic ulceration, which may occur in any radial direction around the internal circumference of the brachiocephalic vessels.

Patients may present with TIA, RIND, or completed strokes apparently due to atheromatous disease with no angiographic evidence of an underlying atherosclerotic cause. A number of the ulcerative lesions may be microscopic or filled with thrombus and difficult to demonstrate with angiography. There is evidence suggesting

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that abnormal platelet cohesion and accumulation may occur as a cause of symptoms without ulcerated atheromata, even in the absence of hypercoagulable states.[16] Improved magnification and subtraction techniques and the use of labeled isotopic studies[17] may in the future provide methods to more clearly define such small foci of embolic origin. The following cases illustrate diverse and unusual angiographic patterns of cerebrovascular atherosclerosis seen by the authors, with pertinent surgical considerations noted.

Case Reports

Case One

A 66-year-old hypertensive female was evaluated for episodes of dizziness and blackouts associated with falling, followed by numbness and weakness of the right hand. She was noted to have retinal hemorrhages with Hollenhorst plaque and bruit over the left carotid artery. Arch aortography was used to evaluate the extent of cerebrovascular disease. Atherosclerosis, which was occlusive and ulcerated, was demonstrated in both the internal and external branches of the left carotid artery *(Figure 1)*. Endarterectomy of the left carotid bifurcation was performed without complications.

COMMENT: This case demonstrated atherosclerosis causing both stenosis and ulceration of the internal and external branches. Bruits may be produced by stenosis of either branch, and the cause of bruit can be determined only by arteriography. The external carotid artery is a major collateral pathway for cerebral and ocular blood flow by way of the ophthalmic artery, when the internal carotid is severely stenotic or occluded.

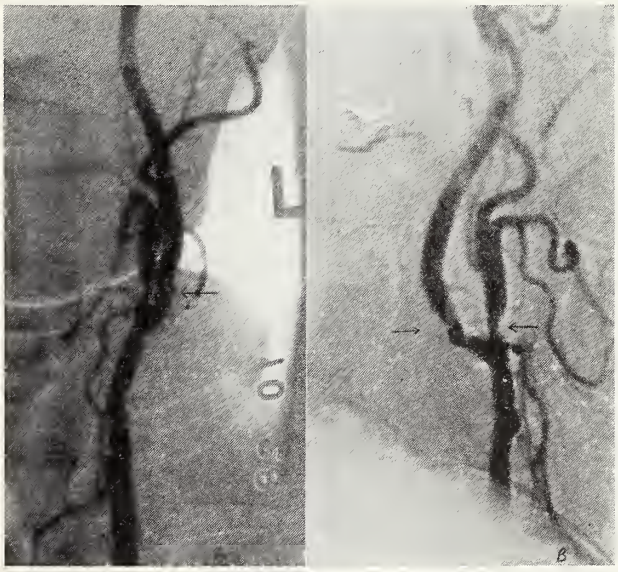

Figure 1. Biplane examination of the left carotid artery with A-P (A) and lateral (B) views clearly demonstrates ulceration and stenosis (arrows) in both the internal and external carotid branches. The distinct punched-out depression in the wall of each branch demonstrates the typical picture of ulcerated atherosclerosis.

Case Two

A 55-year-old male complained of recurrent episodes of weakness and numbness of the left arm. The patient had experienced a similar episode one year earlier, which had been related to atherosclerosis at the right carotid bifurcation, demonstrated angiographically. He underwent right carotid endarterectomy at that time. His recurrent symptoms were now evaluated with angiography. The right internal carotid was free of recurrent atherosclerosis, but the external carotid artery was occluded distal to the superior thyroid branch *(Figure 2-B)*. Examination of the left carotid bifurcation demonstrated two areas of ulceration, which were best seen in an oblique view *(Figure 2-E)*.

COMMENT: This case illustrates the value of multiple views to fully evaluate disease at the carotid bifurcation. Anteroposterior and lateral views should be routine. Ulceration in the left carotid bifurcation was not demonstrated with these views in the first arteriogram *(Figures 2-C, D)*. The clear demonstration of discrete ulceration in the left carotid bifurcation in the oblique views used in the second arteriogram *(Figure 2-E)* emphasizes the value of special views in selected cases.

Postoperative occlusion of the right external carotid artery seen in *Figure 2-B* represents a loss of the primary ipsilateral extracranial collateral pathway for cerebral blood flow. This branch should be preserved, if possible, in routine carotid reconstruction.

Case Three

A 53-year-old female complained of amaurosis fugax involving the right eye. She experienced five such episodes over the prior six months, each lasting five minutes or less. Neurologic and ophthalmologic examinations produced negative results. Angiographic investigation of the right carotid artery initially suggested complete occlusion of the internal carotid artery at the carotid bifurcation, but a detailed evaluation of this examination with subtraction technique demonstrated a faint wisp of contrast material in the internal carotid bulb *(Figure 3-A)*, and siphon filling prior to collateral flow through the ophthalmic artery *(Figure 3-B)*. Stenosis of the external carotid artery was also demonstrated. Endarterectomy of the right common carotid bifurcation was performed without complications. Postoperative arteriogram *(Figure 3-C)* showed a widely patent external carotid branch and carotid bulb with mild narrowing of the internal carotid distally.

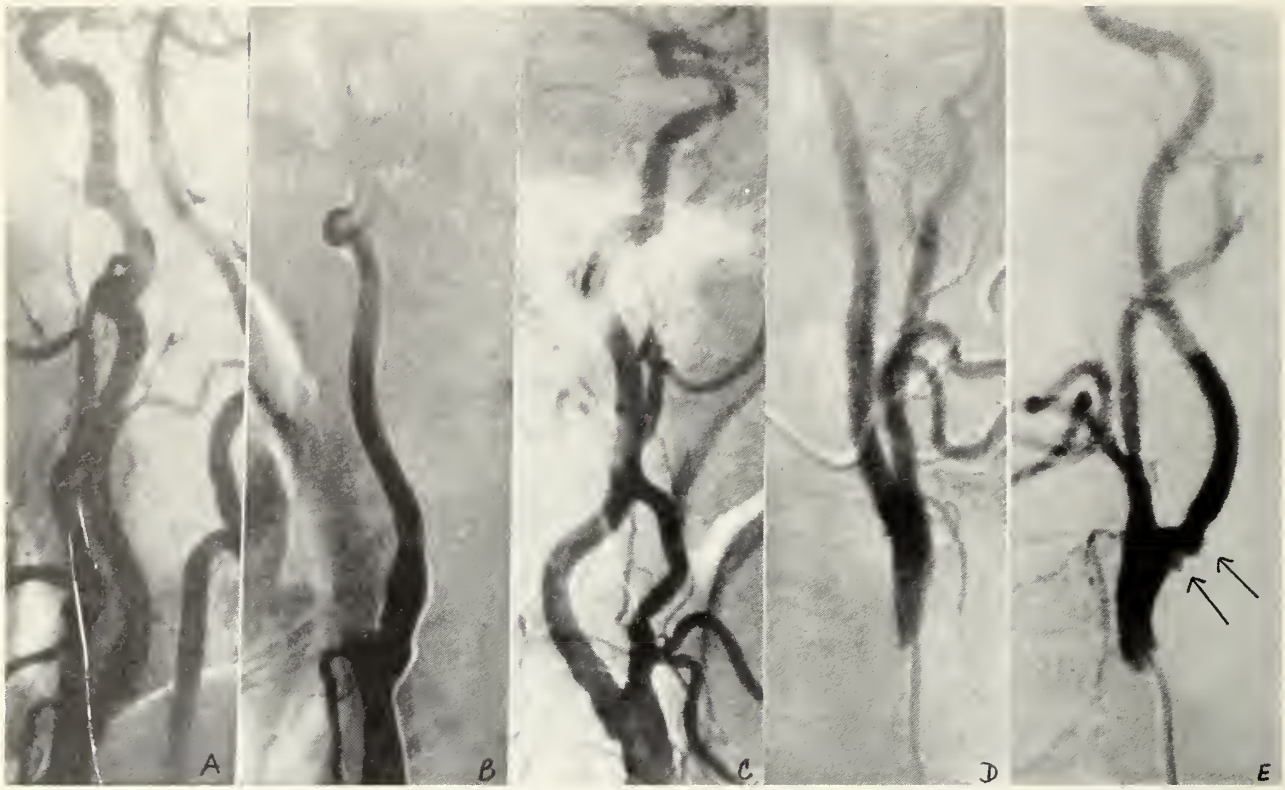

Figure 2. (A) Ulcerated atherosclerotic plaque is seen in the right internal carotid artery in the preoperative arteriogram of 1974. (B) The right internal carotid artery has a very satisfactory appearance in the postoperative arteriogram of 1975, but the external carotid artery is occluded distal to the superior thyroid branch. Standard views of the left carotid bifurcation in 1974 (C) and 1975 (D) fail to demonstrate ulcerated atherosclerosis in the bulb of the left internal carotid artery. The ulcerations are clearly seen in the right posterior oblique view (E) of the bifurcation (arrows).

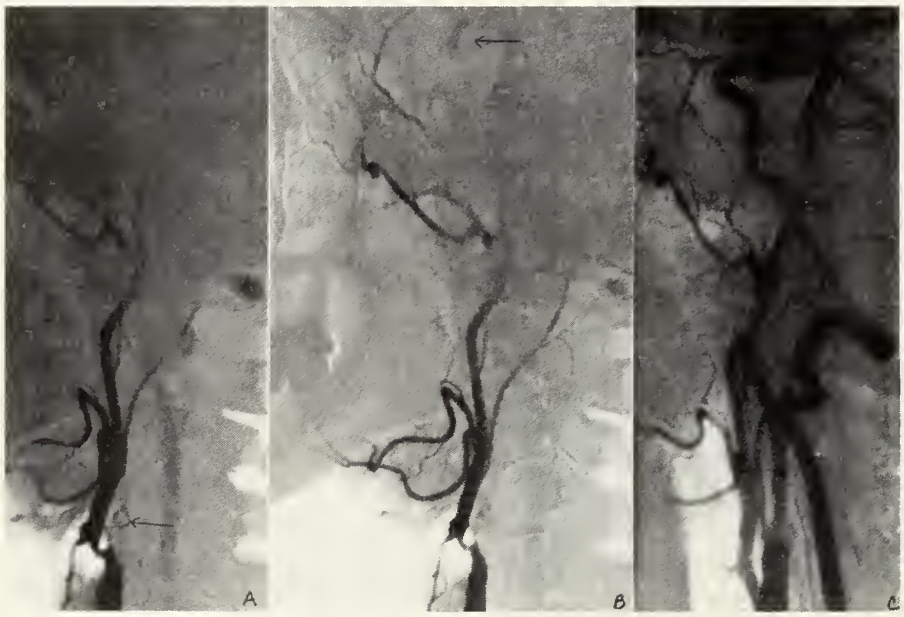

Figure 3. (A) The right internal carotid artery appeared completely occluded prior to examination of the angiogram with subtraction technique. A wisp of dye is seen in the internal carotid (arrow) as well as severe stenosis of the external carotid branch. (B) Antegrade filling is seen in the C-1 segment of the internal carotid artery (arrow) prior to filling the collateral pathway of the ophthalmic artery. (C) Postoperative angiogram demonstrated normal caliber of the external carotid and internal carotid bulb with mild narrowing in the internal carotid distal to the bulb.

COMMENT: The value of detailed evaluation of carotid arteriograms employing the subtraction technique is illustrated in this case. This is especially important in defining collateral pathways and confirming complete carotid occlusion in low flow states. Restriction of internal carotid flow may also be suggested by relative smallness of the internal carotid artery and delayed filling of the internal carotid relative to the ipsilateral external carotid branch, as reported by Houser *et al.*[15]

Case Four

A 54-year-old female presented with recurrent transient episodes of right facial and hand numbness of five months duration. Arteriography demonstrated bilateral stenotic carotid atheromata *(Figure 4-A)*. Left carotid endarterectomy was complicated on the fifth postoperative day by left-sided Jacksonian seizures, which proceeded to grand mal seizures lasting 24 hours. The seizures were managed with anticonvulsion medication. Multiple hemorrhages were noted in the retina of the left eye at that time. Two months postoperatively, a patent left carotid system *(Figure 4-B)* and no change in the right carotid disease were demonstrated by angiography.

COMMENT: This case demonstrated severe stenosis of the internal carotid branch in which the subtraction technique illustrated patency of the internal carotid and the presence of a clot in the carotid bulb *(Figure 4-A)*. The angiogram of this bifurcation two months postoperatively *(Figure 4-B)* showed striking changes in the caliber of the internal and external carotid branches; since the obstruction had been removed from the internal carotid, less flow through the external carotid branch which was providing important collateral circulation was required.

Case Five

A 67-year-old male with no cerebrovascular or neurologic symptoms was seen for carotid bruits prior to planned coronary artery bypass surgery. Arch aortography showed evidence of an apparent atherosclerotic ulcer near the innominate bifurcation *(Figure 5-C)*. Selective oblique right innominate arteriograms clearly defined the ulcer. A large irregular ulcer was also demonstrated in the bulb of the left internal carotid artery *(Figures 5-A, B)*.

COMMENT: Ulcerative atherosclerosis at the innominate bifurcation was demonstrated in this case. Clinically significant ulceration of atherosclerosis in the aortic arch, innominate subclavian and proximal carotid arteries is uncommon, but an ulcer of this type should not be overlooked or ignored in a symptomatic patient.

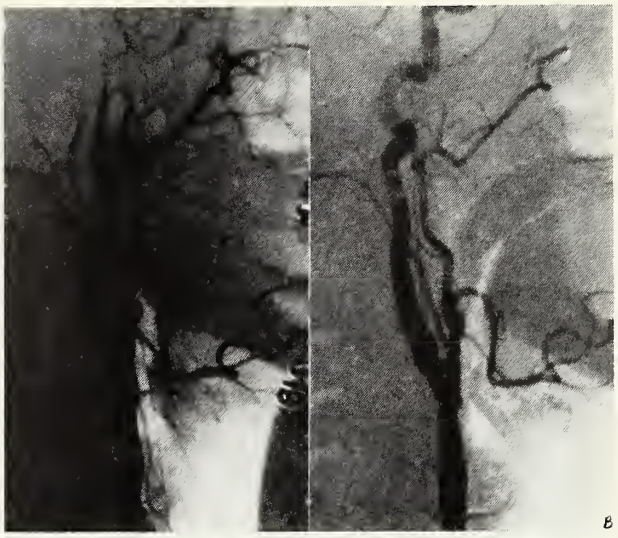

Figure 4. (A) Severe stenosis of the left internal carotid artery with distal intraluminal clot is seen. The very slow progression of dye in the internal carotid branch is noted. (B) Relief of internal carotid obstruction has resulted in striking increase in the size of the internal carotid artery. A reciprocal reduction in the size of the external carotid branch is also noted as its role as a major collateral pathway for cerebral blood flow is no longer needed.

Case Six

A 60-year-old male presented with cerebrovascular disease and a history of central vision loss in the right eye, which had partially returned. The patient was noted to be hypertensive and to have bilateral loud carotid bruits. Initial cerebrovascular evaluation included ophthalmodynamometry (ODN) *(Table I)*. Atherosclerosis, causing stenosis of both common carotid arteries proximal to the bifurcation, right internal carotid, right ophthalmic artery and the left subclavian artery was revealed by arch aortography, including selective carotid and vertebral evaluations *(Figure 6)*. One hour after completion of the arteriogram, the patient experienced transient dimming of vision of 10-minutes duration in the right eye. Eight such episodes occurred over a five-hour period. Hollenhorst plaque was noted in the right retinal artery during this time. The patient underwent staged bilateral carotid endarterectomy at a one-week interval without complications. The Javid shunt was used to maintain arterial perfusion during each procedure, which required an unusually long arteriotomy and endarterectomy. The patient was reexamined with ODN after each procedure, and demonstrated a significant improvement *(Table I)*.

COMMENT: A long and unusual distribution of atherosclerosis in the common carotid artery was evident in this case. The right carotid had narrowing and ulceration

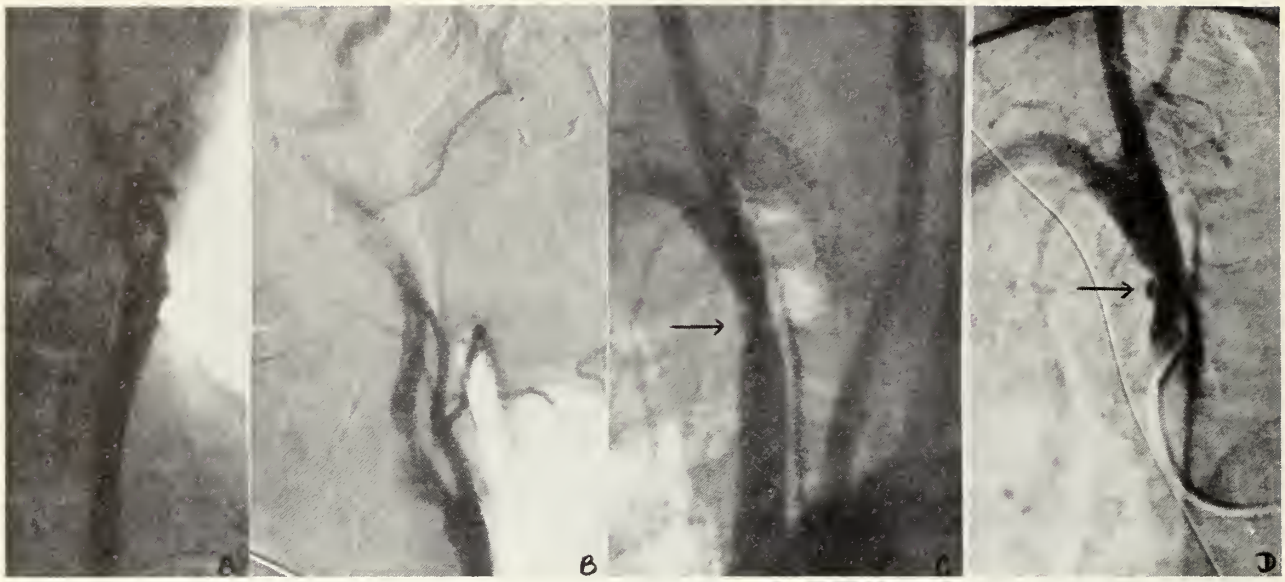

Figure 5. (A, B) A large irregular ulcer is demonstrated in the bulb of the left internal carotid artery. (C) Arch aortogram suggests an ulcer at the bifurcation of the innominate artery (arrow). (D) Selective innominate arteriogram clearly defines the ulcerated atheroma (arrow).

in the mid-portion of the common carotid artery, as well as severe stenosis of the right internal carotid. The left carotid was markedly stenotic proximal to the bifurcation, with no ulceration.

Case Seven

A 59-year-old male underwent evaluation for amaurosis fugax involving the right eye. Each episode lasted about 35 seconds, with no other neurologic symptoms. Arterio-

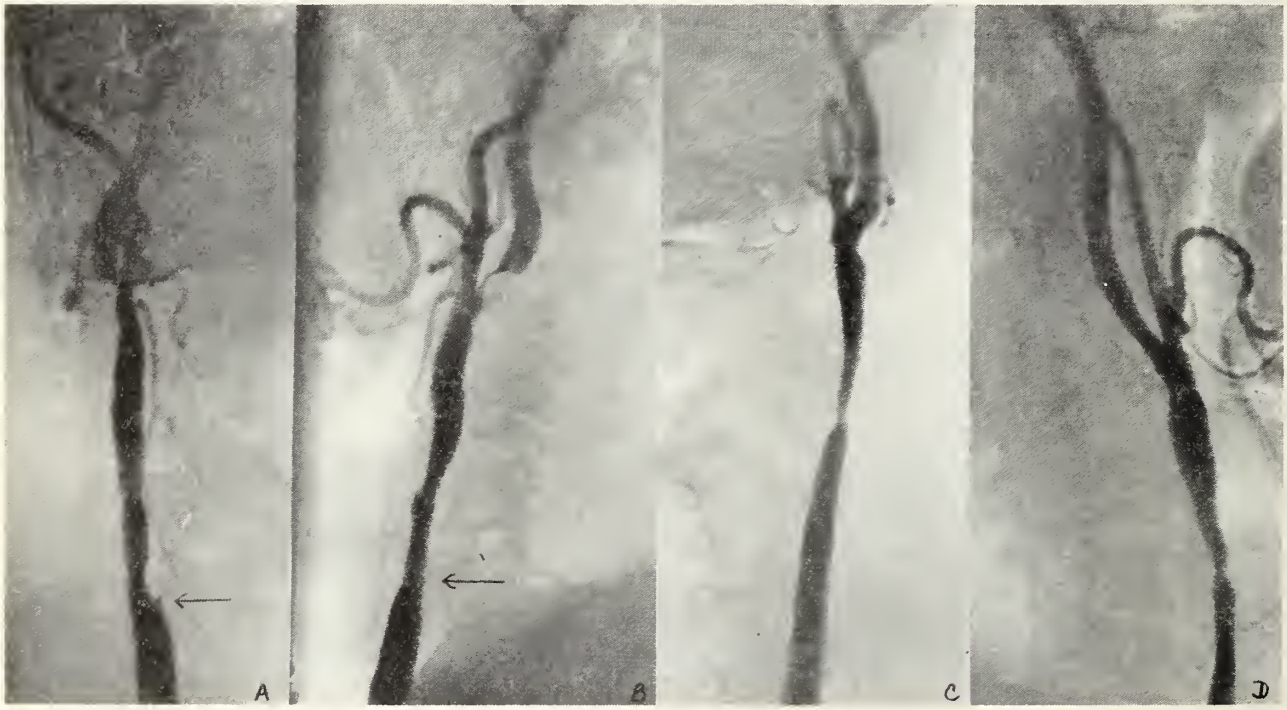

Figure 6. (A) Atherosclerosis with narrowing and ulceration (arrow) is noted in the right common carotid artery well proximal to its bifurcation, in this A-P view. (B) Right common carotid atherosclerosis (arrow) is again noted with severe stenosis of the right internal carotid seen in this lateral view. (C, D) The left carotid evaluation demonstrates stenosing atherosclerosis well proximal to the bifurcation in the lower carotid with slight stenosis and no ulceration seen in the bifurcation.

TABLE I
OPHTHALMODYNAMOMETRY (ODN)

(Case Six)

	Right Eye (ODN UNITS)	*Left Eye* (ODN UNITS)	*Arterial BP* (MM HG)
Preoperative	5/0	35/55	130/70
After right carotid endarterectomy	55/12	40/8	142/60
After left carotid endarterectomy	60/14	68/20	145/70

gram indicated severe stenosis of the right internal carotid artery and a deep irregular ulcer in the bulb of the left internal carotid artery *(Figure 7)*. A 90° axial rotation of the branches of the left common carotid artery in a counterclockwise direction was noted. The internal carotid artery lay medial to the external, as viewed in the A-P projection *(Figure 7-C)*. Bilateral carotid endarterectomies staged at a one-week interval were performed without complications, using intra-operative monitoring with the electroencephalogram (EEG). The counterclockwise axial rotation of the branches of the left carotid artery presented technical difficulties in exposure, and necessitated more extensive dissection and mobilization of the carotid bifurcation and its branches.

COMMENT: This case demonstrates developmental axial rotation of the branches of the left common carotid artery. This anatomical picture is uncommon, but its recognition may be of importance to the vascular surgeon in performing carotid endarterectomy, especially in a patient with a short, thick neck or a high carotid bifurcation.

Case Eight

A 72-year-old female with chronic cardiac failure was seen for recent episodes of transient weakness on the left side and positional dizziness. Occlusion of distal right common carotid artery, severe stenosis of both vertebral arteries, and severe stenosis of the left internal carotid artery with a roughened intra-luminal surface was indicated by arteriography *(Figure 8)*. Endarterectomy of the left carotid bifurcation was performed with EEG monitoring and the use of Javid shunt. EEG changes, which occurred a few moments after carotid occlusion, reversed completely when flow was instituted in the Javid shunt. The patient's postoperative course was complicated by a period of transient cardiac failure and a transient period of mild weakness of the right-upper extremity.

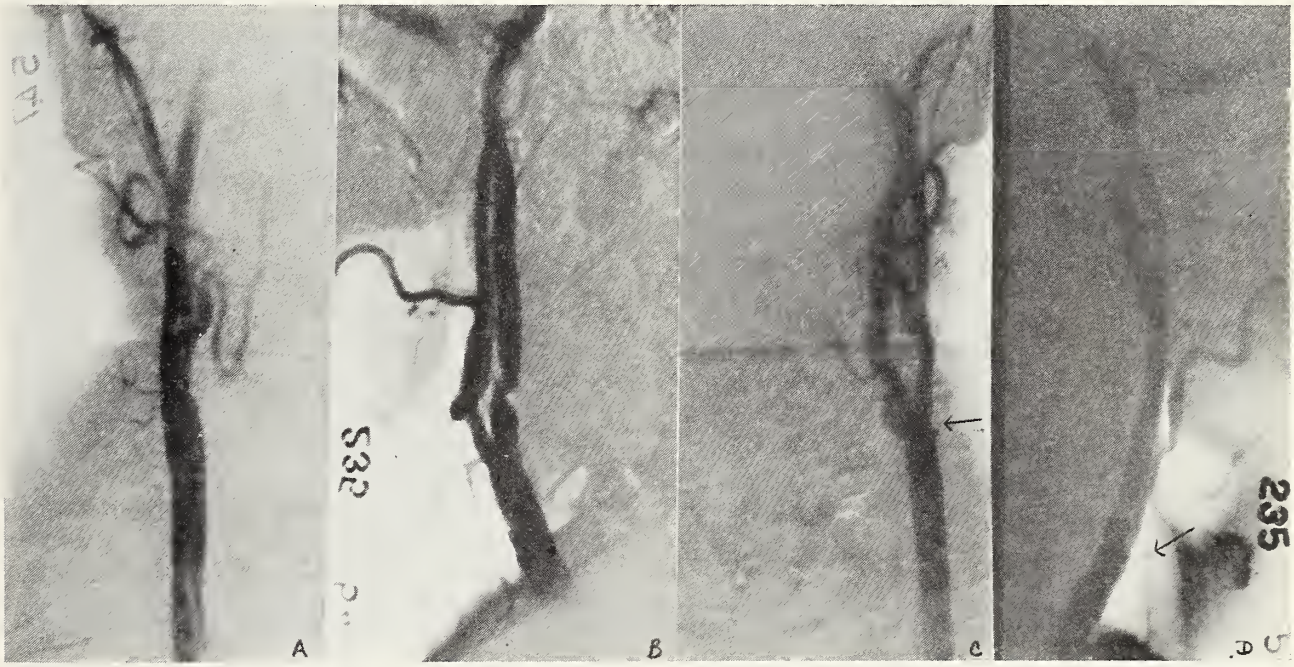

Figure 7. (A, B) Severe stenosis of the left internal carotid artery is noted. (C) A-P view of the left carotid bifurcation illustrates a deep irregular ulcer in the bulb of the internal carotid which lies medial to the external carotid branch. The tit-like projection on the lateral aspect of the bifurcation is the origin of the superior thyroid artery which gives the appearance of an ulcer in this projection (arrow). (D) Superimposition of the branches of the carotid is noted in this lateral view of the left carotid bifurcation, and the superior thyroid branch is again seen (arrow).

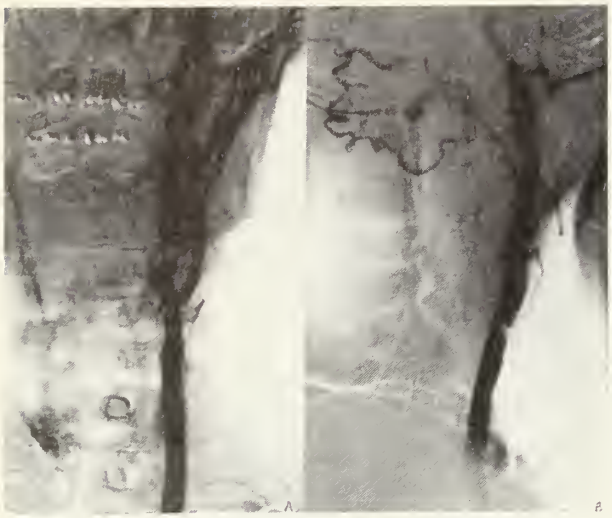

Figure 8. (A) A-P view of the left carotid bifurcation demonstrates severe stenosis of the internal carotid artery (arrow) which lies medial to the external carotid branch, reflecting a 90° counterclockwise axial rotation. (B) Axial rotation of the left carotid bifurcation is again noted as internal and external carotid arteries are superimposed.

COMMENT: This case is an example of severe cerebrovascular occlusive disease with minimal neurologic signs or symptoms. Severe and extensive cerebrovascular disease does not always represent a contraindication to arterial reconstruction, although the surgical risk may be increased. Properly selected patients will benefit from carotid endarterectomy with a small incidence of complications.

Case Nine

A 69-year-old diabetic male underwent evaluation for an episode of transient weakness in the left-upper extremity and momentary loss of consciousness. Neurologic history prior to this episode was normal. Following the episode, neurologic examination was normal, but a bruit was heard over the right carotid. Arteriography demonstrated an irregular stenosis of the right internal carotid artery at its origin, with atherosclerosis extending several centimeters distal to the origin of the internal carotid artery *(Figure 9)*. Right carotid endarterectomy was performed, with intra-operative EEG monitoring. The EEG remained unchanged during the 20-minute period of carotid occlusion, and the patient recovered without neurologic morbidity.

COMMENT: An unusual distribution of atherosclerosis in the internal carotid artery is illustrated in this case. Atherosclerosis, although usually limited to the carotid bifurcation and bulb of the internal carotid artery, is seen in this case to extend several centimeters above the bifurcation *(Figure 9)*. Carotid endarterectomy for this

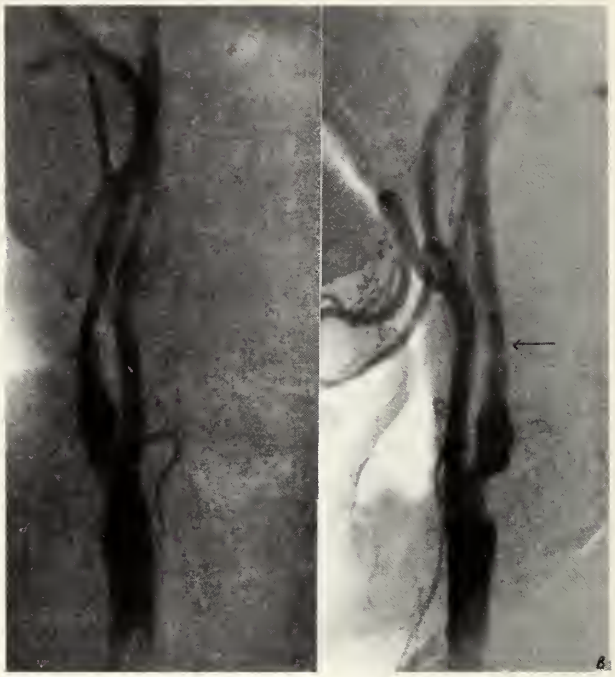

Figure 9. (A, B) Irregular stenosing atherosclerosis is seen in the bulb of the left internal carotid artery. Additional atherosclerotic changes are seen in the internal carotid branch several centimeters distal to its origin with a small area of ulceration (arrow).

extensive lesion will require more extensive dissection of the internal carotid branch and a longer arteriotomy. A high carotid bifurcation or the routine use of an inlying shunt for carotid surgery may add to the difficulty of carotid endarterectomy in an uncommon situation of this type. Intra-operative EEG monitoring may preclude the need for a shunt, as in this case.

Summary

The preceding series of cases has been presented to demonstrate some of the more unusual angiographic patterns and related surgical problems of cerebrovascular atherosclerosis from our experience. The cases illustrate unusual locations and presentations of atheromatous ulcers, determination of questionable carotid patency by subtraction technique analysis, and depiction of unusual anatomical presentations of the carotid arteries. The presentation has stressed: (1) the need for a thorough and complete evaluation of the carotid and vertebral arterial systems, with arch aortography, to demonstrate the more common pathologic lesions; (2) the danger of overlooking the unusual lesions; and (3) the advisability of providing information for well planned, safe arterial reconstructive surgery in the treatment of cerebrovascular disease.

(Continued on page 289)

Multiple Threat

Second Primary Malignancies in Patients With Ovarian Carcinoma Treated With Radiation and Chemotherapy

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Introduction

THE FIRST extensive report and impetus for further study of second primary malignancies were provided by Billroth[1] in 1889. The phenomenon has been well studied in several large series,[2, 3] which demonstrated an incidence of approximately 5 per cent. Factors which may play a role in the development of multiple primary malignancies include infectious agents, chemicals, and environmental factors. The increased use of chemotherapeutic drugs, with the potential for inducing both mutations and malignancies, as well as irradiation therapy (which is both mutagenic and carcinogenic) may be suspected to increase the incidence of an additional neoplasm when used in patients who have a known malignancy. The present study was done to test this hypothesis in a series of ovarian cancer patients recently treated at the University of Kansas Medical Center.

Materials and Methods

All patients with carcinoma of the ovary diagnosed from January 1, 1970 through June 1, 1976, were reviewed. A total of 182 patients with a diagnosis of ovarian carcinoma confirmed by tissue studies had been followed in the Section of Gynecologic Oncology during that time. Of the 182 patients, 12 had multiple primaries *(Table I)*. Of these, 11 (92%) had two primaries and 1 (9%) had three primaries. Carcinoma of the ovary was the second malignancy diagnosed in seven patients. Four patients had an additional primary diagnosed at the same time. This group of patients may be particularly suspect since the ovary is a prime site of metastatic cancer from the breast and gastrointestinal tract. The theories for this phenomenon are varied and include direct, hematogenous, and lymphatic spread. Indeed, patients with advanced breast cancer may have 30 per cent metastatic lesions from the breast. The long natural history of slowly growing breast and colon cancers makes them particularly prone for widespread metastasis. Three patients had breast or gastrointestinal cancer but only one had a similar tumor (that being a mucin-producing adenocarcinoma). Of the four patients who had another primary malignancy diagnosed at the same time as the ovarian carcinoma, three are included in the common pattern of multiple malignancies in a single organ system (*i.e.*, adenocarcinoma of the endometrium and cystadenocarcinoma of the ovary), and one had an adenocarcinoma of the pancreas. Only two patients had primary tumors diagnosed following the discovery of ovarian cancer. One patient had an endometroid carcinoma of the ovary treated with surgery, radiation, and chemotherapy; she later developed a breast adenocarcinoma with no histologic relationship. The other is reported below, due to a recent interest in leukemia developing in patients receiving chemotherapy with alkylating agents.[4, 5]

The study represents a test of the hypothesis that the increased use of chemotherapeutic drugs, with the potential for inducing mutations and malignancies, as well as irradiation therapy may be suspected to increase the incidence of an additional neoplasm when used in patients with second primary malignancies.

The data support previous findings of multiple primaries in the same organ system and increased incidence of metastatic involvement of the ovary in persons with breast and gastrointestinal cancer. The data do not support increased hematologic malignancies in patients treated with radiation therapy or chemotherapeutic drugs.

Case Report

A 65-year-old white female presented with a large pelvic mass in February 1972. She had delayed seeking medical aid despite obvious symptoms. An exploratory celiotomy revealed a 15-cm mass arising from the left ovary, and a 5-cm mass in the cul de sac. No evidence of ascites, peritoneal implants, or enlarged periaortic nodes was found. Histologic evaluation showed poorly differentiated papillary serous cystadenocarcino-

TABLE I
PATIENTS WITH MULTIPLE PRIMARY TUMORS

Case	*Ovarian Tumor*	*Date*	*Treatment*	*Second Tumor*	*Date*	*Sequence*
1	Papillary serous cystadenocarcinoma	5/24/71	Surgery + radiation	Adenoacanthoma endometrium	5/24/71	Same
2	Granulosa cell	10/15/73	Surgery	Adenocarcinoma palate	2/15/68	Earlier
3	Cystadenocarcinoma	2/ 2/73	Surgery	Squamous cell ca. cervix	10/ 2/72	Earlier
4	Adenocarcinoma	9/10/71	Unknown	Squamous cell ca. cervix	2/15/51	Earlier
5	Endometrioid	9/29/71	Surgery + radiation, chemotherapy and immunotherapy	Duct adenocarcinoma breast	5/28/75	Later
6	Mucin adenocarcinoma	11/21/72	Surgery + chemotherapy	Mucin adenocarcinoma colon	10/15/71	Earlier
7	Papillary serous cystadenocarcinoma	2/ 8/72	Surgery + radiation, chemotherapy	Acute granulocytic leukemia	1/ 7/76	Later
8	Granulosa cell	9/ 1/71	Surgery + radiation	Carcinoma in situ cervix	9/ 1/71	Same
9	Papillary serous cystadenocarcinoma	2/18/72	Surgery + radiation, chemotherapy	Adenocarcinoma ascending colon	1/15/63	Earlier
10	Papillary serous cystadenocarcinoma	11/ 4/71	No radiation	Adenocarcinoma breast Adenocarcinoma uterus	4/ 1/64 10/ 1/53	Earlier Earlier
11	Cystadenocarcinoma	6/ 3/75	Surgery + radiation	Adenocarcinoma uterus	6/ 3/75	Same
12	Cystadenocarcinoma	6/15/70	Surgery	Adenocarcinoma pancreas	6/15/70	Same

ma. The patient received daily abdominal irradiation therapy, consisting of 5000 rads, followed by chlorambucil 6 mg orally over a two-week period. Evidence of hypoplastic bone marrow, confirmed by biopsy, forced discontinuation of medication in spite of a persistent 4-cm pelvic mass in August 1974. The patient developed weakness, anemia, and leukocytosis. Repeat bone marrow study performed at this time was compatible with myeloblastic leukemia. The patient subsequently deteriorated and died approximately five weeks later.

Discussion

Eighty years after the original publication of studies by Billroth, Krukenberg and Schlagenhauter appeared in the literature, interest in malignancies metastatic to the ovary and multiple malignancies has grown. Many detailed reports have demonstrated that both phenomena are not merely curiosities but are relatively common. In a series of 37,580 patients, Moertel[2] demonstrated a 5.1-per cent occurrence rate of multiple primary malignancies. Multiple primaries involving the female genital tract are also common. Malignancies of the colon and endometrium have been associated with ovarian cancer in several reviews.[6, 7]

For reasons not physiologically clear, the ovary appears to be a favorite site for metastatic disease. Lesions initially diagnosed in the breast and gastrointestinal tract appear to be particularly disposed to metastatic involvement of the ovary and have been reported in detail.[8–11] Not only does the ovary appear to be involved in widespread multiple primaries, but is even more commonly involved in multiple primaries within a single organ system. The gynecologic oncologist may find himself confronted with the patient who presents with cervical carcinoma and subsequently develops an endometrial or ovarian malignancy.

More recent concern has arisen over the long-term effects of therapy now utilized for ovarian cancer. Ionizing radiation is well known for mutagenic and carcinogenic effects. Radiation therapy not only damages malignant cells but alters the physiology of normal cells as well. Likewise, the widespread toxic effects of systemic chemotherapeutic agents on the bone marrow and other tissues must be considered.

The majority of ovarian tumors in the 12 patients in the present series was diagnosed at the same time or following the discovery of other primary malignancies. The pattern of involvement is similar to that frequently reported in the literature, with colon, breast, and endometrial cancer representing the second primary malignancy.[9, 10] Although the length of followup in the present series is short, only 2 of the 12 patients have

TABLE II

TREATMENT PROGRAM OF THE 182 PATIENTS—JANUARY 1, 1970 TO JUNE 1, 1976

A. Number of patients who received:
- Radiation—43
- Chemotherapy—58
- Radiation and chemotherapy—42
- Surgery only—39

B. Number of patients who:
- Survived two years or more—75
- Did not survive—61

C. Number of patients observed less than two years:
- Surviving—44
- Did not survive—7

demonstrated malignancy developing after therapy of the primary ovarian neoplasm. One must interpret these data with caution, in light of the well-known fact that the toxic effects of radiation and chemotherapy may take years to be manifest. Likewise, the poor overall prognosis in the majority of ovarian cancer patients mitigates against the time interval being of sufficient length to allow development of subsequent neoplasms.

Of particular interest in this series was the patient who developed acute leukemia subsequent to surgery, radiation, and chemotherapy for primary ovarian malignancy, as described in the case report. Bone marrow toxicity of radiation therapy and systemic chemotherapy is a constant problem in the continuing therapy of ovarian carcinoma, and bone marrow alterations would seem to be a logical consequence. Several recent reports[4, 5] have dealt with this problem and support possible predisposition of patients, treated with chemotherapy for multiple myeloma, to subsequent hematologic malignancies. The finding of acute leukemia in the patient reported above also raises this question. If a positive correlation is finally established, the answer may lie in immunologic alterations of the host influenced by intensive radiation or chemotherapy. However, in our experience, the development of leukemia and related hematologic disorders is uncommon following therapy of ovarian cancer with radiation therapy or alkylating agents. Followup and data analysis in patients treated with radiation therapy and chemotherapy must obviously be continued for several years to allow accurate interpretation of long-term effect of these forms of therapy.

Summary

The records of 182 patients with a microscopic diagnosis of ovarian carcinoma in a six-year-period were reviewed for evidence of multiple primary malignancies. The data from this group of patients support the following conclusions: (1) multiple primary neoplasms are not uncommon; (2) the incidence of multiple primaries in the same organ system is increased; (3) gastrointestinal or breast carcinomas are often found concomitantly with ovarian neoplasms; (4) development of one primary cancer should alert the physician to development of another primary in the same organ system; and (5) the incidence of hematologic malignancy does not appear to be increased in the short-term followup of patients treated with ionizing radiation or chemotherapy for ovarian cancer.

References

1. Billroth, T.: *Die Allgemeine Chirurgische Pathologie and Therapie in Sl Vorlesungen: ein Handbuch für Studirende und Ärzte,* 14 Aufl. Berlin, Germany. G. Reimer, 1889, p. 908.

2. Moertel, C. G.; Dockerty, M. D. and Baggenstoss, A. H.: Multiple primary malignant neoplasms. *Cancer* 14:221-237, 1961.

3. Warren S. *et al.:* Multiple primary malignant tumors: Survey of literature and statistical study. *Amer. J. Cancer* 16: 135B-1414, 1932.

4. Karchmer, R. K. *et al.:* Alkylating agents as leukemogens in multiple myeloma. *Cancer* #4, 33:1103-1107, 1974.

5. Kyle, R. A. *et al.:* Multiple myeloma and acute myelomonocytic leukemia. *New Eng. J. Med.* #21, 283:1121-1125, 1970.

6. Reintoft, I.; Lange, A. P. and Skipper, A.: Coincidence of granulosa-cell tumour of ovary and development of carcinoma in rectal endometriosis. *Acta Obstet. Gynec. Scand.* 53: 185-189, 1974.

7. Ingram, J. M. and Novak, E.: Endometrial carcinoma associated with feminizing ovarian tumors. *Amer. J. Obstet Gynec.* 61:774-789, 1951.

8. Woodruff, J. D. *et al.:* Metastatic ovarian tumors. *Amer. J. Obstet. Gynec.* 107:202-209, 1970.

9. Greene, H. J.: Grusetz, M. W. and Mackles, A.: Subsequent second primary and metastatic cancer of the ovary. *Clin. Obstet. Gynec.* 12(4):972-979, 1969.

10. Webb, M. J.; Decker, D. G. and Mussey, E.: Cancer metastatic to the ovary. *Obstet. Gynecol.* 45:391-396, 1975.

11. Israel, S. L.; Helsel, E., Jr. and Hausman, D. H.: The challenge of metastatic ovarian carcinoma. *Amer. J. Obstet. Gynec.* 93:1094-1101, 1965.

Pulmonary Emboli

Experience With the Vena Caval Umbrella

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VENOUS THROMBOEMBOLISM is a significant problem. Vena caval interruption should be considered as a means of treatment for patients who have: (1) recurrent pulmonary emboli despite adequate anticoagulation with heparin or an oral anticoagulant; (2) pulmonary emboli with a contraindication to an anticoagulant; and (3) massive pulmonary emboli resulting in cardiac or respiratory dysfunction. In 1967, Mobin-Uddin[1] introduced the concept of internal vena caval plication by insertion of an umbrella-shaped device. Since that time, he[2-5] and others[6] have reported and updated their experiences with the umbrella. Some data[7] indicate that over 10,000 of these devices have been inserted with a 1-per cent migration rate, and a 2.3-per cent incidence of recurrent pulmonary emboli. This report details our experience with a group of patients who have undergone vena caval umbrella insertion for pulmonary emboli.

Clinical Material

Clinical data are summarized in *Table I*. Ten patients underwent successful vena caval umbrella insertion. Insertion was attempted but was unsuccessful because of jugular venous spasm in one patient. An umbrella was prophylactically inserted prior to femoral venous thrombectomy for phlegmasia cerulea dolens, which developed following aorto-coronary bypass in another patient; at the time of thrombectomy, the umbrella caught on the Fogarty balloon catheter and was inadvertently withdrawn through the femoral vein. The successful group included six males and four females, whose age range was 26-78 years (mean: 52 years).

Diagnosis is shown in *Table I*. The patient with thoracic trauma had sustained a knife wound to the chest, resulting in hemopneumothorax, and had taken an overdose of drugs prior to hospitalization. These 12 patients were analyzed with regard to indications for insertion of vena caval umbrella, diagnostic considerations, and the results and complications of umbrella implantation.

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Patient Management

Patients in whom pulmonary embolus was suspected were further evaluated by chest x-ray, EKG, arterial gas analysis, and lung scan. The latter examination confirmed the diagnosis in most instances. Pulmonary angiography was usually performed in the cardiac catheterization laboratory via an arm vein, to further confirm the diagnosis of pulmonary embolus. The level of the renal veins was located angiographically. The right internal jugular vein was isolated after infiltration of the skin overlying the right sternocleidomastoid muscle with xylocaine. The Mobin-Uddin umbrella was inserted via a right internal jugular venotomy and passed to a point just below the most inferior renal vein. This was generally over the L3 vertebral body. Special precautions were taken to prevent air embolism during insertion of the capsule. These precautions included placing the patient in the Trendelenburg position. Since spasm of the vein can occur, it is important to pass the capsule rapidly through the jugular vein into the superior vena cava. Spasm was so severe in one instance that capsule insertion could not be accomplished. Once the umbrella was securely in place, the stylet was removed and venotomy incision closed with running Prolene suture. The neck wound was closed anatomically in layers. A drain in the deep tissues of the neck was left for 24 hours in most cases. A regimen of anticoagulants was continued postoperatively in patients who had no contraindications to anticoagulation, to prevent further venous thrombosis in the pelvis or lower extremities.

A report of experience with a group of 12 patients, who have undergone vena caval insertion for pulmonary emboli, is presented.

Indications and Results

Indications for vena caval interruption were: recurrent pulmonary embolus with adequate anticoagulation (8); recurrent pulmonary embolus in patients

TABLE I

CLINICAL DATA ON PATIENTS UNDERGOING VENA CAVAL UMBRELLA INSERTION

Patient	*Age (Yrs.)*	*Sex*	*Diagnosis*	*Result*
1.	30	M	Recurrent thrombophlebitis	Alive
2.	71	F	Recurrent thrombophlebitis; obesity	Alive
3.	44	F	Recurrent thrombophlebitis; hypertension; obesity	Alive
4.	26	F	Recurrent thrombophlebitis	Alive
5.	54	F	Carcinoma of breast	Died
6.	60	M	Carcinoma of lung	Died
7.	58	M	Carcinoma of lung	Died
8.	78	M	Hypertensive heart disease	Alive
9.	59	M	Ischemic heart disease	Alive
10.*	46	F	Ischemic heart disease; aorto-coronary bypass	Alive
11.	44	M	Chest trauma and drug abuse	Alive
12.†	65	M	Pneumonia	Alive

* Umbrella inserted successfully but inadvertently removed during ileofemoral venous thrombectomy.
† Umbrella insertion unsuccessful, jugular venous spasm.

in whom anticoagulation was contraindicated (1); pulmonary embolus superimposed upon pulmonary dysfunction (3); and as a prelude to femoral venous thrombectomy (1). Some patients had more than one indication for caval interruption. No patient had massive pulmonary emboli of hemodynamic consequence, but several did have pulmonary emboli superimposed upon pneumonia, pulmonary fibrosis, and pulmonary edema. The pulmonary embolus in these patients accentuated existing pulmonary dysfunction to a degree that prevention of further pulmonary emboli was deemed imperative.

Diagnosis of pulmonary embolus was generally made by pulmonary ventilation-perfusion scan or perfusion scan *(Figure 1)*. In most cases, this was confirmed by pulmonary angiography in the cardiac catheterization laboratory. It is pertinent that these patients had significant symptoms in the form of chest pain or dyspnea and that, as commonly occurs, the thrombophlebitic process was frequently silent.

Arterial gas analysis data from 10 patients was as follows: blood pH, 7.34-7.47 (mean 7.41); pO_2, 44-153 mm Hg (mean 76); pCO_2, 23-47 mm Hg (mean 33). Although hypoxemia was frequently observed in the absence of supplemental oxygen, arterial gas analysis alone was not a definitive diagnostic test.

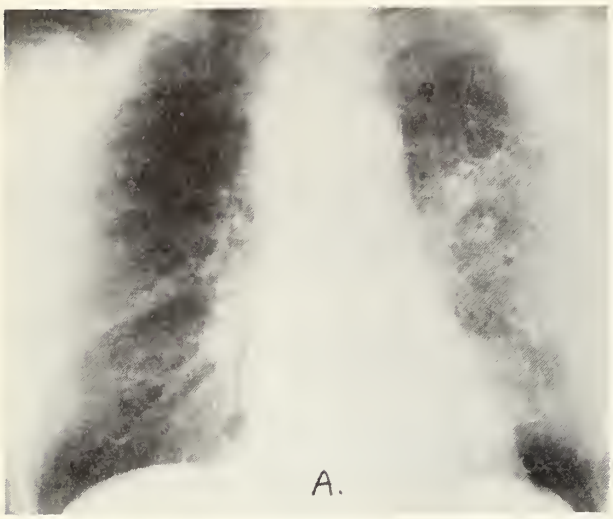
There were three deaths among the ten patients in whom vena caval interruption was accomplished: one died at 4 hours; one at 6 days; and one at 2 months. All of these patients had carcinoma. The patient who died four hours following umbrella insertion was moribund before the procedure, which was performed in an effort to salvage a relatively young woman with metastatic carcinoma of the breast. There was one questionable recurrent pulmonary embolus. There were no complications among the ten patients. The patient in whom vena caval interruption could not be accomplished, because of jugular venous spasm, developed a hematoma in the neck wound, which had to be drained. His pulmonary embolic process did resolve with continued anticoagulation and he subsequently became well.

Discussion

Patients who experience hemodynamically significant pulmonary emboli, pulmonary emboli superimposed on underlying lung disease, or recurrent pulmonary emboli when anticoagulation is contraindicated are candidates for vena caval interruption. Contraindications to anticoagulation are: (1) hypertension; (2) trauma to multiple organs; (3) neurological damage of any sort (cerebrovascular, traumatic); (4) hemorrhagic diathesis; (5) peptic ulcer disease with hemorrhage; (6) patient unreliability; and (7) unavailability of coagulation studies.

Prophylactic insertion, prior to those rare instances in which iliofemoral venous thrombectomy is to be performed, is perhaps a new indication for the umbrella. This would protect against dislodgement of a large thrombus, and would add to the preventive measure of utilizing a Fogarty vena caval occlusion catheter during the procedure. Special care in not passing thrombectomy catheters too far proximally is emphasized in order to prevent inadvertent umbrella dislodgement. Fluoroscopy would be a useful adjunct in this regard.

Contraindications to vena caval umbrella insertion are the same as those for caval *compartmentation* as opposed to *ligation* (multiple, small pulmonary emboli



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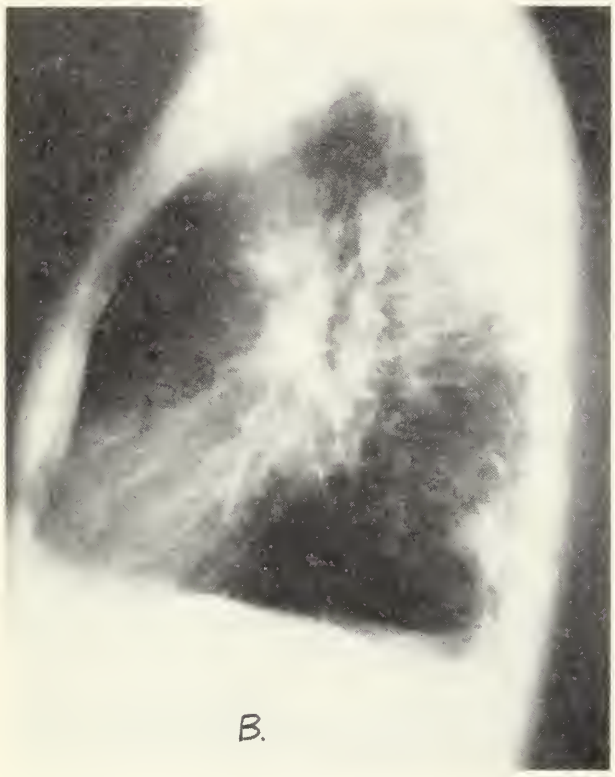

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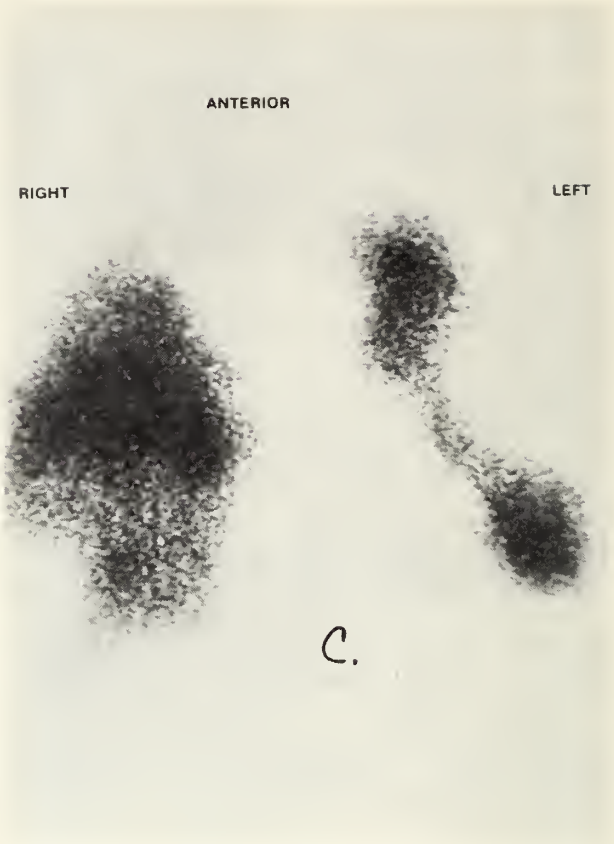

1-C

Figure 1. Chest x-ray (a, b) and perfusion lung scan (c) of 53-year-old male with carcinoma of the lung.

or the presence of septic thromboemboli). No patients in our series had these problems. The ovarian veins may be extremely dilated in patients with pelvic thrombophlebitis, and the left ovarian vein can be a source of continued emboli, because it drains into the left renal vein which enters the vena cava above the umbrella. This is also a problem with other forms of caval interruption, but exposure via a laparotomy incision would allow ligation of the ovarian vein if appropriate.

The ventilation-perfusion scan is extremely accurate in identifying pulmonary emboli when the scan shows a mismatch of ventilation and perfusion.[8] Patients with pulmonary dysfunction, on the basis of atelectasis or pneumonia, usually have matching of ventilation and perfusion defects, with perfusion being diminished because of hypoxia and hypercarbia in the region of inadequate ventilation.[9] The accuracy of the ventilation-perfusion scan is such that pulmonary angiography is not mandatory in all patients although, in general, it has been our practice to confirm the diagnosis of pulmonary embolus by performing a pulmonary angiogram just prior to vena caval interruption. Arterial gas analyses were only occasionally helpful in making a definitive diagnosis of pulmonary embolism. This is not to diminish their value in managing patients with pulmonary dysfunction, however.

The advantages of the vena caval umbrella for caval interruption are that it can be inserted under local anesthesia without interrupting anticoagulation. Other forms of interruption require an abdominal or flank incision, and either spinal or general anesthesia.

Reported complications of the vena caval umbrella

are migration of the umbrella, bleeding into the wound or retroperitoneum, perforation of the duodenum or ureter, and air embolism. The overall incidence of complications in a large number of patients is 3 per cent. None of our patients who underwent successful umbrella insertion experienced a complication, although one patient did have a wound hematoma following attempted umbrella insertion. With the large size umbrella, which is now available, migration has become an uncommon problem. Should air embolism occur, one should be conversant with the methods of dealing with this problem, namely, turning the patient into the left lateral decubitus position and aspirating the right atrium with a catheter passed into that chamber via the jugular vein (perhaps via the peripheral venous catheter, which was employed for pulmonary angiography and location of the renal veins). It is best to prevent this complication by employing the Trendelenburg position and having the patient perform the Valsalva maneuver, or breathe quietly during capsule insertion.

Summary

Twelve patients, with a variety of underlying diagnoses, experienced major pulmonary emboli and were selected for vena caval interruption by transvenous insertion of the Mobin-Uddin umbrella under local anesthesia. Permanent umbrella insertion was successful in ten patients. Three died. One sustained possible recurrent pulmonary embolus. One patient sustained a neck hematoma which had to be drained surgically. Regimen for these patients and the advantages of the umbrella for vena caval interruption were outlined.

References

1. Mobin-Uddin, K. *et al.:* A vena caval filter for the prevention of pulmonary embolus. *Surg. Forum* 18:209-211, 1967.
2. Mobin-Uddin, K. *et al.:* Caval interruption for prevention of pulmonary embolism. *Arch. Surg.* 99:711-715, 1969.
3. Mobin-Uddin, K.; Bolooki, H. and Jude, J. R.: Intravenous caval interruption for pulmonary embolism in cardiac disease. *Circulation XLI, Suppl. II,* 152-157, May 1970.
4. Mobin-Uddin, K.; Trinkle, J. K. and Bryant, L. R.: Present status of the inferior vena cava umbrella filter. *Surgery* 70: 914-919, 1971.
5. Mobin-Uddin, K. *et al.* Transvenous caval interruption with umbrella filter. *New Eng. J. Med.* 286:55-61, 1972.
6. Ray, J. F. *et al.* Vena cava umbrella placement. *Amer. J. Surg.* 127:545-551, 1974.
7. Edwards Laboratories Product Circular: Mobin-Uddin Vena Cava Umbrella Filters. October 1976.
8. McNeil, B. J.: A diagnostic strategy using ventilation-perfusion studies in patients suspect for pulmonary embolism. *J. Nucl. Med.* 17:613-616, 1976.
9. Fishman, A. P.: Hypoxia on the pulmonary circulation: How and where it acts. *Circ. Res.* 38:221-231, 1976.

Carotid Atherosclerosis

(Continued from page 282)

References

1. Bauer, R. B. *et al.:* Joint study of extracranial arterial occlusion. *JAMA* 208:509-518, 1969.
2. Fields, W. S. *et al.:* Joint study of extracranial arterial occlusion. *JAMA* 211:1993-2003, 1970.
3. Perdue, G. D. *et al.:* Carotid revascularization in the treatment of cerebral ischemia. *Arch. Surg.* 100:562-564, 1970.
4. Kollarits, C. R.; Lubow, M. and Hissong, S. L.: Retinal strokes: I. Incidence of carotid atheromata. *JAMA* 222:1273-1275, 1972.
5. Tompkins, W. C. *et al.:* Retinal artery emboli. *Arch. Surg.* 110:1075-1078, 1975.
6. Fields, W. S.: Surgical treatment of extracranial arterial occlusion (Letter to the Editor). *JAMA* 216:1199, 1971.
7. Stoney, R. J. and String, S. T.: Recurrent carotid stenosis. *Surgery* 80:705-710, 1976.
8. Blaisdell, F. W.; Glickman, M. and Trunkey, D. D.: Ulcerated atheroma of the carotid artery. *Arch Surg.* 108:491-495, 1974.
9. Wylie, E. J. and Ehrenfeld, W. K.: *Extracranial Occlusive Cerebrovascular Disease, Diagnosis and Management.* Philadelphia, Saunders, 1970, pp. 96-120.
10. Newton, T. H. and Potts, D. G.: *Radiology of the Skull and Brain.* St. Louis, Mosby, 1974, pp. 2310-2343.
11. Taveras, J. M. and Wood, E. H.: *Diagnostic Neuroradiology.* Baltimore, Williams and Wilkins, 1976, pp. 857-876.
12. Maddison, F. E. and Moore, W. S.: Ulcerated atheroma of the carotid artery: Arteriographic appearance. *Am. J. Roentgen.* 107:530-534, 1969.
13. Wood, E. H. and Correll, J. W.: Atheromatous ulceration in major neck vessels as a cause of cerebral embolization. *Acta. Radiol. (Diagn.)* 9:520-536, 1969.
14. Kishore, P. R. S.; Chase, N. E. and Kricheff, I. I.: Carotid stenosis and intracranial emboli. *Radiology* 100:351-356, 1971.
15. Houser, O. W. *et al.:* Atheromatous disease of the carotid artery. *J. Neurosurg.* 41:321-331, 1974.
16. Walsh, P. N., Pareti, F. I. and Corbett, J. J.: Platelet coagulant activities and serum lipids in transient ischemia. *N. Eng. J. Med.* 295:854-858, 1976.
17. Pollak, E. W. *et al.:* Experimental carotid ulceration: Detection by radiolabeled particle entrapment versus angiography. *Stroke* 7:10, 1976.

Letters to VOX DOX should be addressed to the Vox Dox Editor, Journal of the Kansas Medical Society, 1300 Topeka Avenue, Topeka, Kansas 66612.

Cancer Data Service

Colorectal Carcinoma Distantly Metastatic at Diagnosis, 1945-1974

F. F. HOLMES, M.D.; SUZANNE OLSON, B.S.J.; CHIP LASH, B.F.A. *and* J. MITCHELL HENRY, B.S.,
Kansas City, Kansas

Ed. Note: This is the third of a series reporting on the survival of 3,842 patients with carcinoma distantly metastatic at diagnosis (Stage IV) who were registered at the Cancer Data Service (CDS), formerly the Cancer Information Center. For previous installments see the May and October 1976 issues.

EXCLUSIVE of epitheliomas of the skin, colorectal carcinoma is the most frequently occurring carcinoma in the United States, and is exceeded as a cause of cancer deaths only by lung cancer in males and breast cancer in females. It has been estimated that in the United States alone 69,000 people developed colorectal carcinoma in 1975. Of these, 38,000 will subsequently die as a result of this disease.[1]

Of the patients who die of colorectal carcinoma, approximately 50 per cent have distantly metastatic disease.[2] Reported prevalence rates for patients who present with distantly metastatic carcinoma range from 19 to 27 per cent of all colon carcinomas,[3,4] and 10.5 to 22 per cent for all carcinomas of the rectum.[4,5] Lung and liver are the most frequent sites of distant metastases, with less common sites being bone and brain.

Symptoms of early colorectal carcinoma are often minimal; weight loss, palpable mass, and pain are usually indicative of advanced disease. As with most other advanced forms of cancer, presence of distant metastases in colorectal carcinoma is an indication of poor prognosis.

Surgery is often the first method of treatment for advanced colorectal carcinoma, even in cases where the presence of inoperable metastases permit only palliative resection. Relief of bowel obstruction or impending obstruction is regarded sufficiently worth-while to warrant operation. Some benefits are accrued from radiation and chemotherapeutic treatment of advanced colorectal carcinomas. Use of 5-fluorouracil has been reported to provide significant objective remission in 15 to 30 per cent of those patients with advanced colorectal carcinoma who were treated with the drug.[6]

In another study of 484 untreated colorectal patients (all stages), mean duration of life from proof of unresectable carcinoma was found to be 9.5 months.[7] Survival rates for treated advanced colorectal carcinoma are as indicated in *Table I.*

TABLE I

CDS DATA					
Years	*1* %	*3* %	*5* %	*7* %	*9* %
1965-1974	37.6	10.9	4.7	4.7	4.7
1945-1964	22.7	8.5	3.1	1.5	1.5
OTHER DATA					
Years	*1* %	*3* %	*5* %	*7* %	*10* %
Source	*Colon*				
Cancer R&R[8]	—	—	5.0	—	—
Recent trends[9]	30.0	11.0	7.0	—	—
	Rectum				
Cancer R&R[8]	—	—	4.0	—	—
Recent trends[9]	30.0	6.0	3.0	—	—
	Large Intestine				
Albany Cty[10]	33.8	8.1	4.0	2.8	1.4
Recent trends[9]	30.0	9.0	5.0	—	—
Cancer prog[11]	—	—	1.2	—	—
Ohio[12]	29.8	7.5	2.6	1.3	1.3

Cancer Data Service Information

During the period 1945-1974, the Cancer Data Service registered 2,913 cases of colorectal carcinoma. Of these, 472 (16%) were diagnosed as distantly metastatic. The status of these 472 patients at last followup was as follows:

		%
Alive without obvious disease	7	1.5
Alive with disease	43	9.1

This study was supported in part by the Mid-America Cancer Center Program (through National Cancer Institute grants CA 15080 and CA 17959) and the American Cancer Society-Kansas Division, and is presented in cooperation with the State of Kansas Department of Health and Environment.

Address reprint requests to F. F. Holmes, M.D., KUMC, 39th & Rainbow, Kansas City, KS 66103.

Dead without obvious disease	20	4.2
Dead with disease	390	82.6
Unknown status	12	2.6

Data for survival comparing the 263 patients diagnosed from 1945-1964, and the 209 patients diagnosed from 1965-1974, are displayed in *Figure 1*.

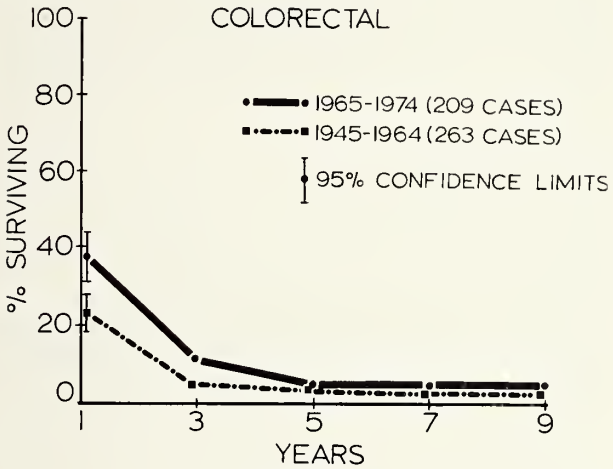

Figure 1

Summary

Survival percentages in colorectal carcinoma differ to a large degree when comparing the two time periods of the CDS data. Reviewing our data, we found the survival for the recent decade was significantly better at one year and noticeably better at three years, the two lines almost paralleling thereafter. Colon and rectum, cited individually or together in other studies, show survival similar to the first 20 years in our study.

TABLE II

	No Treatment %	*Surgery* %	*Radiation* %	*Chemotherapy* %
1945-1964 ...	26	70	3	9
1965-1974 ...	14	77	10	40

In view of this improvement, it is important to note the great increase in the use of chemotherapy during the last decade.

Acknowledgment

Kansas hospitals contributing cancer case data to this study are: St. Joseph's of Concordia; Mercy of Fort Scott; St. Catherine of Garden City; Halstead of Halstead; Sheridan County of Hoxie; Bethany Medical Center, Kansas University Medical Center, and Providence-St. Margaret Health Center of Kansas City; Ransom Memorial of Ottawa; Mt. Carmel Medical Center of Pittsburg; Stormont-Vail of Topeka; and St. Joseph Hospital and Rehabilitation Center and Wesley Medical Center of Wichita.

References

1. American Cancer Society: Cancer Facts and Figures. American Cancer Society, Inc., New York, 1974.
2. Holland, J. F. and Frei, E., III: *Cancer Medicine.* Lea and Febiger, Philadelphia, Pennsylvania, 1974.
3. Carter, A. P. *et al.:* Cancer in Washington and Alaska, 1960-1971. Washington/Alaska Regional Medical Program, Seattle, 1973.
4. Ingall, J. R. F. and Patterson, J. C.: Lakes Area Regional Tumor Service Registry Report, 1970-1972. Lakes Area Regional Medical Program, Buffalo, New York.
5. Parish, H. S.: Cancer in the Rocky Mountain Region. Mountain States Regional Medical Program, Boise, Idaho. November 1972.
6. Savlov, E. D. *et al.:* Response and survival in advanced cancer without severe antitumor drug toxicity. *Dis. Colon Rectum* 13:421-424, 1970.
7. Moertel, C. G. and Reitenmeier, R. J.: *Advanced Gastrointestinal Cancer: Clinical Management and Chemotherapy.* Harper & Row, New York, 1969.
8. Levin, D. L. *et al.:* Cancer Rates and Risks (2nd ed.), United States Department of Health, Education and Welfare, Bethesda, Maryland, 1974.
9. Axtell, L. M. and Myers, M. H. (eds.): Recent Trends in Survival of Cancer Patients, 1960-1971, United States Department of Health, Education and Welfare, Bethesda, Maryland, 1974.
10. Albany County Tumor Registry: Tumor Registry Report, Albany County Health Department and the New York State Health Department, June 1966.
11. James, A. G.: *Cancer Prognosis Manual.* American Cancer Society, Inc., New York, 1966.
12. Ohio State University Hospitals Tumor Registry: Results of Cancer Survival and End Results, 1962-1974. The Ohio State University Hospitals, Columbus, Ohio, 1975.

PROGNOSIS in lung carcinoma is poor regardless of stage of initial treatment. Mortality rates for all stages of lung cancer are high during the first three years with virtually all patients with distantly metastatic lung carcinoma at diagnosis dead at two years. It has been suggested that this grim outlook for patients with advanced carcinoma may be due to a highly malignant potential of the disease and to an immune system that is unable to check tumor progression from the onset of the disease.[1] Unlike early lung carcinoma, no relationship between prognosis and histology has been found to exist in advanced lung carcinoma.

Since evidence of metastasis is considered an absolute criteria of incurability, control and palliation are goals in the treatment of distantly metastatic lung carcinoma. Advanced disease is usually treated by irradiation with the addition of chemotherapy as indicated for pain, infection, respiratory complications, and neuropsychiatric symptoms. Palliative surgery is suggested for the control of hemorrhage, resistant pain, and recurrent pleural effusions.[2]

Prevalence rates reported for lung carcinoma distantly metastatic at diagnosis range from 26 per cent[3] to 45.7 per cent.[4] Peak incidence for the disease is in males age 50 to 60 years.

Although no specific survival data are available for untreated advanced disease, untreated lung carcinoma for all stages was found to result in the death of all patients within 14 months after the first significant symptom in one reported series.[5] Reported survival rates for treated lung carcinoma patients in various other series are as follows:

TABLE I

CDS DATA

Years	*1* %	*3* %	*5* %	*7* %	*9* %
1965-1974	18.8	3.7	2.1	2.1	2.1
1945-1964	6.6	0.9	0.9	0.9	0.5

OTHER DATA

Years / *Source*	*1* %	*3* %	*5* %	*7* %
Albany Cty[6]	8.7	2.2	1.5	1.5
Cancer R&R[7]	—	—	1.0	—
Recent trends[8]	12.0	2.5	1.0	—
Cancer prog[9]	—	—	1.4	—
Ohio[10]	11.3	1.2	0.7	—

Cancer Data Service Information

During the period 1945-1974, the Cancer Data Service registered 2,975 cases of lung carcinoma. Of these, 768 (26%) were diagnosed as distantly metastatic. The status of these 768 patients at last followup was as follows:

		%
Alive without obvious disease	2	0.2
Alive with disease	61	7.9
Dead without obvious disease	22	2.9
Dead with disease	671	87.4
Unknown status	12	1.6

Data for survival, comparing the 332 patients diagnosed from 1945-1964 and the 436 patients diagnosed from 1965-1974, are displayed in *Figure 1*.

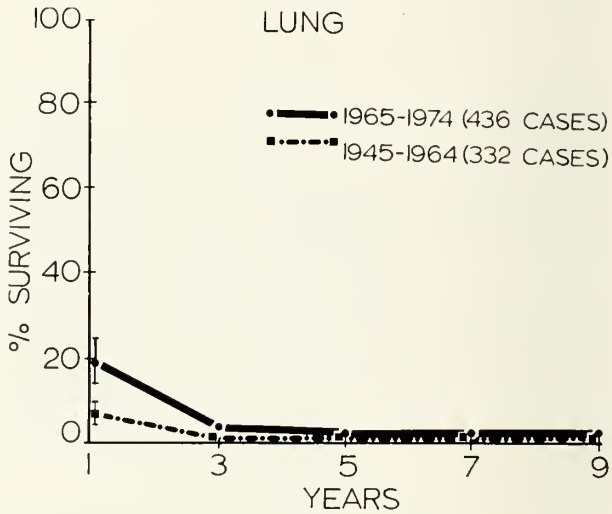

Figure 1

Summary

It is particularly important to note a statistically significant increase in survival at one year in lung carcinoma for the last decade, 1965-1974, over the first two decades. This increase is a marked improvement over other reported data at one year. After one year, survival in the latter period is nearly double that of the first period, though not statistically significant.

Treatment has changed little during the two periods as the following table indicates. A smaller percentage of patients received no treatment over the latter time period, while the use of other modalities increased, possibly accounting for the improved survival at one year. The number of cases for analysis has increased

during the last decade over the first two decades studied.

TABLE II

	No Treatment %	Surgery %	Radiation %	Chemo-therapy %
1945-1964 ...	37	14	38	24
1965-1974 ...	26	21	47	38

Acknowledgment

Kansas hospitals contributing cancer case data to this study are: St. Joseph's of Concordia; Mercy of Fort Scott; St. Catherine of Garden City; Halstead of Halstead; Sheridan County of Hoxie; Bethany Medical Center, Kansas University Medical Center, and Providence-St. Margaret Health Center of Kansas City; Ransom Memorial of Ottawa; Mt. Carmel Medical Center of Pittsburg; Stormont-Vail of Topeka; and St. Joseph Hospital and Rehabilitation Center and Wesley Medical Center of Wichita.

References

1. Minton, J. P.; Sabback, M. S. and Oberle, K. V.: Lung cancer survival: The Ohio State University Hospitals. *Ohio State Med. J.* 69:27, 1973.

2. Rasmussen, L. H. and Goodner, J. T.: Management of the patient with advanced lung cancer. In Watson, W. L. (Ed.): *Lung Cancer: A Study of 5,000 Memorial Hospital Cases.* C. V. Mosby Co., St. Louis, 1968.

3. Holmes, F. F. and Loveland, G. C.: Cancer in Kansas; Cancer at the University of Kansas Medical Center, 1944-1969 Kansas Regional Medical Program, Kansas City, Kansas, 1969.

4. Parish, H. S.: Cancer in the Rocky Mountain Region, Mountain States Regional Medical Program, Boise, Idaho. November 1972.

5. Dragsted, P. J. *et al.:* Morbidity and mortality due to cancer of the lung in 1,200 in-patients with pulmonary disorders: A follow-up study. *Dis. Chest* 50:589-594, 1966.

6. Albany County Tumor Registry: Tumor Registry Report, Albany County Health Department and the New York State Health Department, June 1966.

7. Levin, D. L. *et al.:* Cancer Rates and Risks (2nd ed.), United States Department of Health, Education and Welfare, Bethesda, Maryland, 1974.

8. Axtell, L. M. and Myers, M. H. (Eds.): Recent Trends in Survival of Cancer Patients, 1960-1971, United States Department of Health, Education and Welfare, Bethesda, Maryland, 1974.

9. James, A. G.: *Cancer Prognosis Manual.* American Cancer Society, Inc., New York, 1966.

10. Ohio State University Hospitals Tumor Registry: Reports of Cancer Survival and End Results, 1962-1974. The Ohio State University Hospitals, Columbus, Ohio, 1975.

Vox Dox

Vox Dox Editor:

For a number of years, I have routinely prescribed an insect sting kit for my insect allergy patients thinking somewhat smugly that I was protecting those patients from future possible hazard. A few years ago, I was shocked to learn that it was illegal in most if not all states for anyone other than a physician to administer the vital premeasured epinephrine contained in the kit, even if the victim of a sting was obviously in great difficulty and the nearest physician or hospital many miles and minutes away. I discovered that even a school nurse, though she was given permission by the patients, and even if the child had an insect sting kit in his possession, could not legally administer the subcutaneous epinephrine injection to stave off fulminating symptoms of anaphylaxis long enough to get the child to a physician or hospital. The best she or the school authorities could do under the law would be to call the parents to come take the child to the physician or rush the child there themselves. Since frequently time is of the essence in a severe systemic reaction, this could be tantamount to signing such a child's death warrant.

Worse still, when I queried a patient of mine last week, who was a member of a rescue squad, whether he had ever been called upon to assist someone suffering a severe systemic reaction to an insect sting, he replied, "Yes, but he died enroute to the hospital." Even with his 84 hours of training in meeting emergencies, he had received no training in the administration of epinephrine and even if he had, would not have been allowed to administer it.

Spurred by such revelations, I have been attempting to find a legal solution to this situation in my own state of North Carolina and elsewhere. In support of such an attempt, I am collecting data on insect sting fatalities with special attention paid to the time interval that occurs beween sting and death. Thus, I would appreciate it very much if you could publish this letter in the *Journal of the Kansas Medical Society.*

I am convinced that lives now needlessly lost to severe systemic reactions to insect sting could be saved by a greater awareness of both, the possibilities of such fatal responses and of the existence of insect sting kits to be employed as emergency, first-aid measures to stave off anaphylaxis. Because of this conviction, I am in the process of collecting and collating data on the incidence of such fatalities. I am especially interested in the time

(Continued on page 301)

Socio-
ECONOMICS

Family Practice Education

The Evolution at KUMC

NORMAN G. MARVIN, M.D.,* ***Kansas City, Kansas***

A brief report is presented summarizing the genesis of the concept of Family Practitioner through the work of the Willard, Millis and Folsum Reports; and the development, operational scheme and program of Family Practice Education as established at KUMC.

THE EVOLUTION of Family Practice Education at the University of Kansas Medical Center began in the late 1960s when the public, state, and federal governments all became aware of the increasing need for family physicians in rural, urban, and metropolitan areas. This awareness culminated in the formation of several foundations interested in providing answers to the problem of how to expand and improve the education of family physicians through residency training.

Three major committee reports were published in August and September 1966: (1) Report of the Ad Hoc Committee on Education for Family Practice of the Council on Medical Education, American Medical Association (commonly referred to as the Willard Report); (2) Report of the Citizens Commission on Graduate Medical Education commissioned by the AMA (the Millis Report); and (3) President's Health Manpower Report (the Folsum Report).

The Willard Report[1] defines a family physician as the one who (1) serves as the physician of first contact with the patient and provides a means of entry into the health care system; (2) evaluates the patient's total health needs, provides personal medical care within one or more fields of medicine and, when indicated, refers the patient to appropriate sources of care while preserving the continuity of his care; (3) assumes responsibility for the patient's comprehensive and continuous health care and acts as leader or coordinator of the team that provides health services; and (4) accepts responsibility for the patient's total health care within the context of his environment, including the community and the family or comparable social unit.

The family physician is a personal physician, oriented to the whole patient, who practices both scientific and humanistic medicine. He may provide care for only one member of the family, but more often does so for several or all members. Usually, he himself provides medical care in more than one of the traditional specialty fields of medicine, and he coordinates the care obtained by referral to or consultation with other physicians and allied health personnel. He assumes responsibility for the patient's comprehensive and continuing health care and in effect serves as captain of the health team.

The Report of the National Commission on Community Health Services[2] recommends that every individual should have a personal physician who is the central point for integration and continuity of all medical and medically related services to his patient. Such a physician should emphasize the practice of preventive medicine, both through his own efforts and in partnership with the health and social resources of the community.

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The physician should be aware of the many and varied social, emotional, and environmental factors that influence the health of his patient and the patient's family. He will either render or direct the patient to whatever services best suit his needs. His concern will be for the patient as a whole and his relationship with the patient must be a continuing one. In order to carry out his coordinating role, it is essential that all pertinent health information be channeled through the physician regardless of what institution, agency, or individual renders the service. The physician should have knowledge of and access to all the health resources of the community —social, preventive, diagnostic, therapeutic, and rehabilitative—to be able to mobilize them for the patient.

According to the Millis Report,[3] many leaders of medical thought have proclaimed the desirability of training physicians who are able and willing to offer comprehensive medical care of a quality far higher than that provided by the typical general practitioner of the past. The physician they conceive is knowledgeable about organs, systems and techniques, but he never forgets that organs and systems are parts of a whole man, that the whole man lives in a complex social setting, and that diagnosis or treatment of a part, as if it existed in isolation, often overlooks major causative factors and therapeutic opportunities.

One of the qualifications of the physician who renders comprehensive care is thorough knowledge of, and access to, the whole range of medical services of the community. Thus, he can readily call upon the special skills of others when they can help his patient. If the full range of medical competence is to be made effectively and efficiently available, it is mandatory that means be found to increase the supply of physicians who are properly trained and willing to serve in this comprehensive role.

Comprehensive and continuing health care is wanted which would include not only the diagnosis and treatment of illness, but also its prevention and the supportive and rehabilitative care that helps a patient maintain, or return to, as high a level of physical and mental health and well-being as he can attain. Neither the hospital nor any of the existing specialists is willing, equipped, or able to assume this comprehensive and continuing responsibility and, according to the report, too few of the present general practitioners are qualified to do so. A different kind of physician is needed.

The designation of a primary physician has been suggested.[3] Such a physician should be "primary" in the sense that he is the patient's first contact. He will serve as the primary medical resource and counselor to an individual or a family. When a patient needs hospitalization, the services of other medical specialists or other medical or paramedical assistance, the primary physician will see that the necessary arrangements are made, giving such responsibility to others as is appropriate, and retaining his own continuing and comprehensive responsibility.

Funds were first appropriated by the Kansas Legislature in 1970, to begin a Family Practice program at the University of Kansas Medical Center. The Department of Family Practice was officially established on July 1, 1970. On March 1, 1971, Dr. Jack D. Walker was appointed chairman of the new department which was located in a small house at 3941 Cambridge, Kansas City, Kansas. The residency program of the department was officially approved by the American Medical Association Residency Review Committee in the spring 1972. Three residents began their training in July of that same year. Nine residents were accepted July 1, 1973; 15 in 1974; 19 in 1975; 23 in 1976 and there will be 28 in 1977.

The faculty of the department has also grown. Four faculty members have been added between October 1, 1971 and September 1, 1975: Leo F. Cooper, MD; Lawrence Perry, MD; George Burket, Jr., MD; and Norman G. Marvin, MD. The first group of six family practice residents completed their three-year residencies in June 1975. Eight family physicians had been educated by this program as of July 1976. Other staff members include a dietician and a social worker. A part-time psychiatric consultant has also been added, to meet the increasing need for training in the behavioral sciences.

During this time, the location of the department has changed from 39th and Springfield, to the present building at 4125 Rainbow Boulevard (the location of a former motel, which had been converted to a convalescent home and hospital, located south of the main campus).

The department has accumulated approximately 9,500 patient records, and 900-1,000 family units are recognized.

Applications for residencies outnumber the available spaces. During the past few years, an increasing number of medical students began taking one-month elective clerkships. As many as four at a time can be accommodated. This increasingly popular elective allows the student to have a better grasp of family practice as a specialty. Five parameters of family practice are emphasized in the residency program: (1) Preventive medicine; (2) Early detection of asymptomatic diseases; (3) Care of acute and chronic disease; (4) Rehabilitation; and (5) Care of incurable diseases, acute and chronic.

The residency program is three years in length following the MD degree, and adheres to the basic guidelines established by the AMA Liaison Committee on Graduate Medical Education for an approved family practice residency program. During the three-year course, the residency program embodies the concept of graded clinical responsibility under the supervision of the clinical faculty. The early months of the program emphasize additional exposure to the basic clinical specialties of internal medicine, pediatrics, general surgery, emergency care, obstetrics/gynecology, and psychiatry. Throughout the three years, the resident physician assumes, under supervision, the clinical responsibility for the health care of the families who seek services at the Model Family Practice Unit. This responsibility, limited at the beginning of the residency program, increases as the resident physician progresses.

The Department of Family Practice incorporates the use of several hospitals in their residency program. These include the Veterans Administration Hospital, Bethany Medical Center, Shawnee Mission Medical Center, and the University of Kansas Medical Center.

The first year of the curriculum for a family practice resident is the equivalent of a basic rotating internship, and includes 4 months in internal medicine, 3 months in surgery (2 mos are spent in emergency outpatient care and 1 mo in inpatient surgery service), 2 months in obstetrics and gynecology, and 3 months in pediatrics (1 mo in the nursery and 2 mos in pediatric inpatient service). Each first-year resident spends one afternoon a week in the family practice clinic, establishing a nucleus of his own patients. This nucleus is increased each year of his residency as he spends progressively more time in the clinic. Credit is given to fulfill the state licensure requirement at the end of first year.

During the second year, the resident spends the entire time in outpatient clinics. He is in family practice clinic full time for 2 months; 1 month is spent full time in orthopedics. He spends the remaining 9 months in family practice one-half day; the other one-half day is divided as follows: internal medicine, 4 months; pediatrics, 2 months; dermatology, 1 month; eye, ear, nose and throat, 1 month; and psychiatry, 1 month. The one-month orthopedic service is both inpatient and outpatient, as the resident spends the entire time under the tutelage of three private practicing orthopedic surgeons, assisting them in surgery in their inpatient service and in private office. Even during this month in orthopedics, he comes back to the family practice clinic for one afternoon/week, thus giving 12 months of continuous care to his family practice patients.

The final year of the residency program allows the resident more latitude in developing his own special interests with four months of full-time electives. Each resident is encouraged to spend two of his four months of electives in obstetrics. Additional two months are spent one-half day on elective service and one-half day in the family practice clinic. Four months are spent full time in the family practice clinic. The remaining two months are spent with a family practitioner on a community-rotation in Norton or Kingman, where the resident can apply the knowledge and skill he has accumulated in a private family practice environment.

This program, which will begin in July 1977, will offer 12 residency positions which, after three years, will make a total resident population of 36 positions.

The new clinical facility, to be completed in October 1978, will have a family practice section with a 24-bed ward. The Department of Family Practice will then have clinics in both the present model unit and the new facility.

Immediate plans call for extension into the state with integrated programs, which will evolve approximately eight additional residency positions.

The physician trained in this program will emerge as a professionally competent physician, broadly trained to serve the health needs of the family in a comprehensive and continuing manner. He will be eligible for certification by the American Board of Family Practice, competent to join his colleagues in providing primary care to all areas of the state of Kansas.

The vision of the late 1960s has started to be realized in the 1970s, and continues to grow in the vastness of its outreach. Victor Hugo once said, "There is nothing as strong as an idea whose time has come." The time for the Family Physician is NOW.

References

1. Meeting the Challenge of Family Practice: The Report of the AD HOC Committee on Education for Family Practice of the Council on Medical Education. American Medical Association, 1966.

2. Health Is a Community Affair: Report of the National Commission on Community Health Services, 1966.

3. The Graduate Education of the Physician: Report of the Citizens Commission of Graduate Medical Education. American Medical Association, 1966.

Aging

A Challenge to Medicine

ROBERT N. BUTLER, M.D., ***Bethesda, Maryland***

THE HEALTH CARE SYSTEM and other vital American institutions were not prepared for the demographic revolution of the 20th Century that saw the population of older Americans grow seven-fold while the general population only tripled.

This human triumph of increased life expectancy is clouded by the situation created because the nation was not prepared for a "sudden" increase of citizens 65 and older—from 3 million in 1900 to 23 million today.

The major task before the nation is to adapt its social institutions to the needs of older people while, at the same time, it meets the needs of the younger population.

The prospect of the older population growing to 30 million by the year 2000 poses an especially serious challenge to the health care profession—from the "pure" research scientist in the laboratory to the practitioner in his consulting room.

The profession is ill-prepared to meet that challenge, as indicated by a lack of training in geriatric medicine —not even fundamental education in this field is offered by American schools of medicine.

A survey of 99 medical schools in 1970, for example, found that 50 made no mention of geriatrics in their offerings. And, of the nation's 114 medical schools, only 32 offer electives in the subject.

Until January of this year, the nation in which one out of every ten citizens is 65 years of age and older had not a single endowed chair in geriatric medicine. Today, there is one—the Irving Sherwood Wright Professorship in Geriatrics at the New York Hospital-Cornell Medical Center in New York City.

Let us hope that establishment of that chair, by a $1 million endowment from the Gladys and Roland Harriman Foundation, signals a new academic emphasis, and that the Wright Professorship is the first in a series of similar teaching and research positions to provide needed leadership in geriatrics throughout the country.

Medical education today is marked by serious shortcomings: no medical school requires that all its students receive part of their training within nursing homes, long-term care institutions, or in home-care programs. There are but two formal medical school training programs in geriatric medicine and very few centers in which any sort of training for research in clinical gerontology can be obtained. In other words, medical students get little or no sophisticated teaching regarding the medical problems of the elderly. This lack is reinforced by a prejudice toward the aged often displayed by teaching and practicing physicians.

The obvious conclusion is that the medical profession, as represented by its educational establishment, is not preparing itself to serve a rapidly growing population with special needs for health care that become more pressing every year.

There are indications that the general public is moving ahead of the medical profession in recognition of the special problems of the elderly and in taking action to solve them. Congress, as representative of the people, established the National Institute on Aging (NIA) as the 11th of the National Institutes of Health after finding that: "No American institution . . . has undertaken comprehensive systematic and intensive studies of the biomedical and behavioral aspects of aging and the related training of necessary personnel." (Aging Act of 1974, P.L. 93-296.)

The Institute, which began operations last year, sees its main role as correcting this lack by supporting a comprehensive program of research and training on the variety of factors—biological, medical, social, and behavioral—which contribute to the aging process. This research program is intended to produce the knowledge needed to prevent, modify, or reverse the harmful aspects of aging and enhance the quality of the later years.

Institute scientists are working to distinguish aging from disease; identify the normal biological changes that accompany aging; understand the relationships between the aging process and the diseases related to advanced age; determine the psychological and social phenomena that contribute to and accompany changes with age; and develop the diagnostic, treatment, and preventive procedures to apply this knowledge.

Research lies at the heart of solving such questions

Director, National Institute of Aging, Department of HEW, Public Health Service, National Institutes of Health, Bethesda, MD 20014.

because, whether it is called basic or applied, research is the ultimate service. A comprehensive research plan was prepared by the Institute for the Department of Health, Education, and Welfare and presented to Congress, at its direction, earlier this year. The plan, entitled *Our Future Selves: A Research Plan Toward Understanding Aging* is designed to focus the resources of the government on all aspects of aging.

We recognize that research alone cannot accomplish the objective of a healthier and stronger older population, but the plan was offered as a reasonable and reasoned promise of a major endeavor to comprehend the nature of aging and its associated ills, with the ultimate aspiration of a more decent and dignified old age.

Far too many people, including professionals, see old age primarily as a time of chronic illness, failing mental abilities, dwindling bank accounts, and stagnation. The vision of the plan extends beyond these concerns to the positive aspects of aging. Therefore, two basic ideas underlie the recommendations of the plan:

- Effective programs for the aged—whether medical or social, treatment or prevention—must be based on knowing which changes in the aged are intrinsic to the aging process and which are not;
- If we are able to prevent or lessen the impact of nonintrinsic factors in the decline of the aged, then we are left with a unique and more satisfying concept of what aging is or should be—a natural stage in human development leading to a gradual and peaceful end.

Through research, and with the support of medical schools and physicians, knowledge can be increased and applied to serve the elderly.

The readiness of the medical community to join in this effort was indicated by a survey of practicing physicians, reported in the AMA's *IMPACT* (September 1976), in which 75 per cent of respondents answered affirmatively to the question: "Do MDs need special training in geriatrics?" Such training would, for example, make more physicians aware that in the later years multiple disorders are present as the body's protective mechanisms are compromised. Symptoms present differently in the old, and the untrained clinician often misses the diagnoses:

- An older person with hyperthyroidism may appear apathetic, not hyperactive;
- Tuberculosis may proceed in silence;
- Appendicitis may occur without the characteristic abdominal tenderness at McBurney's point, without fever, and without an elevated white count;
- An older person may have a heart attack without chest pain and may instead appear confused, disoriented, and seem like the victim of a stroke.

In the area of drugs, most practitioners have at some time been distressed by the adverse and often paradoxical reactions and interactions that occur because of multiple drug use by older people. Even so, the classic Goodman and Gilman textbook does not list the word "age" in its index. Beleaguered by many other demands, the Food and Drug Administration has never really concentrated on the special variables of age, despite our knowledge that with age and with the severity of disease, the impact and the acute and long-term toxicity of drugs is altered. We know far too little about the age- and disease-related effects of the 1,500 different drugs prescribed each year. For example:

- The dosage of the anticoagulant warfarin needs to be lessened when given to a person taking chloral hydrate;
- There is a greater risk of bleeding when heparin is administered to women;
- There appears to be a link between reserpine and breast cancer in women;
- Diazepam causes excessive drowsiness with age.

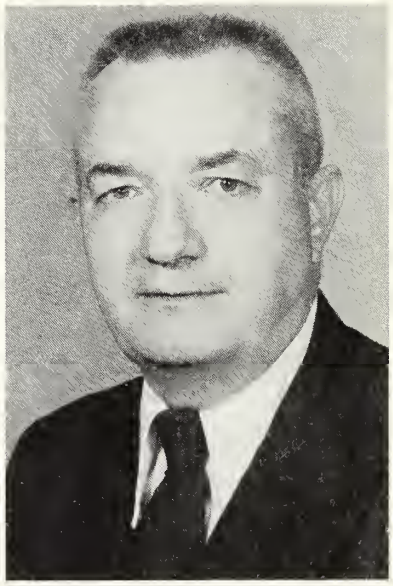
Learning more about various medications and their age-related effects is one type of basic research appropriate for the NIA. We need wise prescription guidelines in our work with older people, but first, we need the scientific knowledge to enable us to develop such guidelines.

The special effect of diet on the condition of the elderly is not well enough understood. Nutrition has been shown to be the only environmental factor to increase the life span in animal model systems. Unfortunately, the nutritional status of aged persons is often poor. Undernutrition can be the key to an array of pathologies, such as intellectual confusion (so-called senility) and anemia, which could be reversed if adequate nutrition were provided. However, what constitutes "adequate nutrition" for aged persons is not fully known.

Most information on nutritional needs is based on research with children and young adults. But, because of changes in the physiology of the aged, such information is not likely to be applicable to the needs of this group. It would be of tremendous benefit to the aged to have valid guidelines for their nutritional requirements, including the need for vitamins, trace elements, fats, carbohydrates, and proteins.

The Institute actively seeks the support of the medical community and public and private agencies to increase the total resources available to accomplish its research goals and to bring the old into the mainstream of American medicine.

The President's Message



Emerson Yoder deserves an accolade for the service he performed for the Kansas Medical Society during the past year. He enhanced the image of the medical profession in the eyes of the people in Kansas and their legislators. This has helped Jerry Slaughter to increase our credibility and to establish better rapport with the legislature, making his lobbying efforts a little bit easier and a whole lot more enjoyable.

Jimmie Gleason's performance as chairman of the Legislative Committee has earned him another year in that capacity. This will lend continuity to our legislative efforts.

Doctor John D. Pace was honored May 20, by the KU Medical Alumni, for practicing 57 years in Parsons, Kansas. Dr. Pace retaliated by delivering the Peter T. Bohan Lecture, recalling his 57 years as a family physician. In his speech, he urged the members of the Class of '77 to practice compassion and to demonstrate humanitarianism in their future roles as health providers.

Lela May Young, Kansas City, Kansas, will be installed as President of the AMA Auxiliary at the June 1977, annual convention in San Francisco. We plan to be there en masse, to see that she is properly ensconced with all the pomp and ceremony befitting such an occasion.

Your response to the request for volunteers to man the screening panels has been very gratifying. The Executive Office in Topeka has been swamped with returning cards. Keep those cards coming, folks.

Fraternally,

John D. Huff M.D.

President

Of Politics and Apricots

The name of the leading character has been changed and there have been a few alterations in scenery and stage directions but the story plot remains true to earlier versions. The primary role is being played by a new actor—a bad one in the view of many—named Laetrile, and the show goes on. The story, in classical tradition, concerns the emergence in the community of an agent deemed capable by a segment of that community of being the one true protector and security against the forces of evil, while another group strives to expose the agent as not a protector but evil itself.

It is a theme that can be applied to many medical problems but none so effectively as cancer. Cancer, of course, is unequalled among diseases in its capacity to instill fear in the public. In spite of the efforts of the medical profession and its ancillary supporters to keep the matter in perspective, the prospect can produce a disabling phobia and the diagnosis carries a profound sense of despair. The technical ability of the cancer therapist must be at least equalled by his ability to interpret to the patient and the family the nature of the enemy and to provide the sensitive blend of subjective and objective support which is essential to successful management—especially when successful management must mean delay rather than cure.

It is this matter of cure which is, of course, the root of the problem. The uncertainty of etiology, which makes all of us vulnerable to the continuing threat, and the stresses of therapy are sufficient in themselves to create a rational basis of fear. Education has not removed the conviction in the minds of many that the diagnosis is equivalent to a death sentence or that cure can be expressed only in terms of survival of unknown extent under the continuing threat of recurrence and in varying degrees of discomfort. One day, perhaps, viral mediators or recombinant genes will perform an invasive neutralization of the malignant potential of the precursors and we can talk confidently of cure. In the meantime, the medical world continues its efforts to separate victim from disease by the knife or rays or chemical destruction. Its successes are measured in the increasing number of survivors who return to the mainstream, but by their very survival they cease to attract attention to the miracle. Those who do not survive continue to present to the fearful public tangible evidence of the reasonableness of that fear.

The emotional charge of this setting makes a perfect climate for these spurious agents, which become the focal points in the continuing struggle for survival. Perhaps the agent has enjoyed some degree of respectability as it was tested before being discarded by qualified and objective investigators. Perhaps it was brought from another country by some self-styled scientist of dubious repute. Around it gathers a motley assortment of supporters. Usually there are chiropractors, naturopaths, food faddists and the like who endow the agent with a specious scientific value. Not infrequently, there may be a medical name of high respect who, through misguided but sincere intent—or stubbornness—or senility, becomes a figurehead whose reputation the promoters are pleased to exploit. Then there is a segment—call it anti-establishment or paranoid or whatever—which views with distrust and suspicion the orthodox medical profession and pursues its mission simply because it *is* denied by the medical and governmental authorities. These are the people, of course, who consistently make up the bulk of the patients of the cultists. They will always be with us and there probably isn't much we can do about it.

But the total group includes a significant portion composed of just people—patients and their families who have exhausted the resources of conventional therapies and have found them insufficient to stem the course of the disease. Even without rancor toward their legitimate medical advisors and with perhaps unspoken realization that this extramural therapy offers little or no hope, they seek it. It is, after all, better than nothing, and even physicians, confronted with the personal agony

when the patient is close to them, are not so adamant in their rejection since physicians, too, need hope. However rational and scientific the conventional therapy, however compassionate and supportive the therapists, however appreciative and thankful the patient for their attention, however appropriate it would be to accept and prepare for the termination with whatever spiritual strength is left, who is to say the patient is wrong to pursue this one last hope? They feel an understandable sense of justice in claiming for themselves the right to use this—or any—method to retain "that puff of vapor" for whatever time they can. However rational the discrediting, the patient hopes he may be the one success. His willingness to pursue this hope and the efforts of the professional and governmental groups to prevent his exploitation produces, in fact, this polarization which composes the classical and recurring tragedy.

The argument that the agent may be harmful means nothing when there's no future anyway. The argument that this unjustified therapy will keep the patient from the benefits of orthodox management means nothing when it is already deemed to have failed. The argument that it is a waste of the patient's financial and emotional resources means nothing when it is offering focus and purpose in an otherwise vain effort.

The opponents of Laetrile have relied upon their standard strategy which suffers from some lack of imagination. To them, it should be enough to say that the agent does no demonstrable good and can do harm. Apricot pits, from which it is derived, contain cyanide which generally has a disagreeable effect on all kinds of animals including the human. The proponents, undismayed, take that very point for their strength: it's the release of hydrocyanic acid (shades of Fu Manchu) which does the trick. But they have introduced some new features in their campaign, reflective perhaps of the sociopolitical attitudes of the day. For one thing, to circumvent the restrictions placed on the material, they have been exerting pressure on state legislatures to make it available over these restrictions. It has happened in Alaska. And this spring, the Indiana assembly gave strong indication of preparing to do just that. The governor, whose status as a physician has added a special interest to his governmental function in health matters, announced his intention of letting the act become law without his signature because he knew a veto would be overridden anyway. When the bill did arrive, with some amendments he could not tolerate, he did veto it—and the veto was overridden. And several other legislatures are following their example.

Perhaps we are seeing a new form of medical management—the provision of a therapeutic regimen, despite medical condemnation, by legislative fiat. Perhaps this is a way to solve the rural physician shortage. There never seems to be any shortage of legislators from these areas, so the answer may be for the legislators to declare themselves physicians' assistants. However much they have wanted to tell us how to practice, we doubt that there are many who want to take on the actual chore, but this must surely tell us something about the pressures the public can put on them when it is denied something it wants, however ill-advisedly.

But, we suspect, a potentially more problematic event for physicians is the emergence of the Committee for Freedom of Choice in Cancer Therapy, Inc. What force it may come to have is, of course, unknown and undoubtedly the concept of freedom *and* choice implied in its name will attract many adherents. The intent to permit the patient to determine his therapy has an appeal, and *whether* to have therapy and how long to have it are certainly to be determined primarily by the patient's wishes. But to attempt to translate the committee's interpretation of freedom—and choice—into a requirement that the medical profession violate its responsibility by letting popular demand dictate its therapeutic principles will stir up quite a hassle. Freedom, in the minds of such organizations, is what they say it is.

As we mentioned before, there are many individuals who are unreachable by the orthodox medical profession, but the profession's concern must be in renewed efforts to treat—and educate—its patients in such a way that these defections will be at an irreducible minimum. This is the only truly effective weapon.

Krebiozen, anyone?—*D.E.G.*

Vox Dox

(Continued from page 293)

lapse between sting and death, although other information would also be greatly appreciated, such as the following: time sequence of symptoms; previous reactions victim may have had to insect stings; whether and what medication the victim may have had on hand at the time of the incident; the type of insect, if known; how many stings the victim may have suffered; and an estimation of whether or not a physician or hospital emergency room could have been reached in time to avoid a fatal outcome.

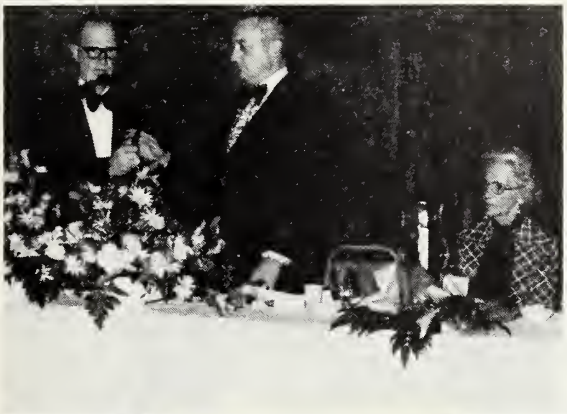
Claude A. Frazier, M.D.
4-C Doctors Park
Asheville, N. C. 28801

House of Delegates

←John Yulich, Kansas City, speaks while Dick Meidinger, Topeka, waits his turn.

↓Phil Godwin makes a point.

Clair Conard, Dodge City, Speaker of the House, assesses the progress with Jack Cooper, Shawnee Mission, the "official" photographer.



Banquet highlights featuring President Emerson Yoder

(Upper left) Presenting AMA-ERF checks to Cramer Reed and Robert Kugel, deans of the Wichita and Kansas City schools respectively. *(Above)* Introducing Jean Cavanaugh, Great Bend, retiring KMS Auxiliary president, and Lela May Young, Kansas City, incoming AMA Auxiliary president. *(Left)* Passing the gavel to John Huff, Kansas City, incoming president of KMS.

William Padgett, Wichita, and Dick Cummings, Wichita, preside at Sports Banquet.

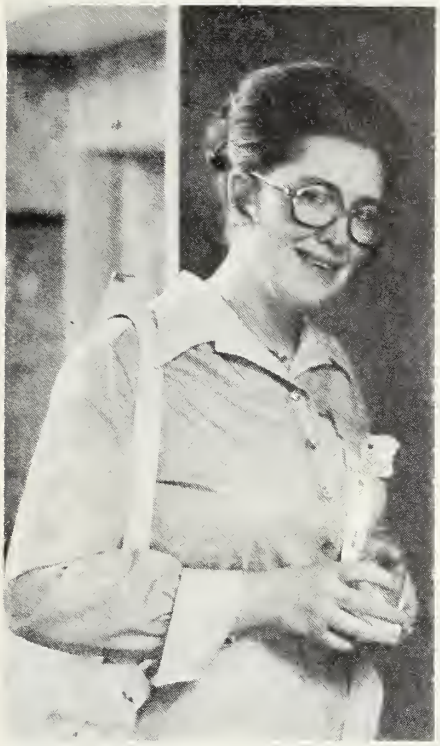
Robert Knapp admires his trophy for golfing.

Lobbyists at work—

(Standing) Alex Scott, Junction City; Antonio Huaman, Topeka; Rex Kenyon, Oklahoma City, Chairman, AMPAC Board of Directors. *(Seated)* John Young, Prairie Village, Physicians' Medical-Legal Foundation; John D. Huff, Kansas City, president-elect, KMS.

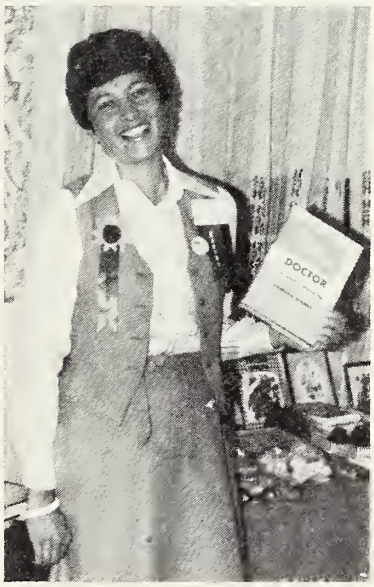
And on the social side—

(Above left) a-one and a-two with Elizabeth and Ken Lohmeyer, Emporia; *(left)* laughter from Tucker and Stu Averill, Topeka; *(above)* and so to bed with Bill and Jean Crouch, Topeka.



←Jackie (Mrs. Dean) Burnett, Halstead, ponders her coming year as the president of the Kansas Medical Society Auxiliary, which has forsaken its sexist stand by taking in a male member, Michael Moddrell, Lawrence.

↑ Lela May (Mrs. Chester) Young, Kansas City, president-elect of AMA Auxiliary.



←Caryl (Mrs. Frank) Bichlmeier, Kansas City, book salesperson.

Peggy (Mrs. Floyd) Grillot, Wichita, womanning the Auxiliary registration desk. →

←Francis Collins, Topeka, discusses KFMC progress.

John Growney, Atchison, and John Rempel, Wichita, try to talk at the same time. →

Ken Graham, Leavenworth, and Tom Butcher, Emporia, as past presidents and representing a combined total of 927 KMS annual meetings, compare notes on this one. →

Tom Taylor, Salina, another of the past presidents and now KaMPAC chairman, checks on a couple of employees of his brother, Richard Ray Taylor, M.D., Surgeon General of the U. S. Army. ↓

See You
in TOPEKA
in '78

Official Proceedings

1977 Annual Meeting of the House of Delegates

Transactions of the 118th annual session of the Kansas Medical Society are published in this issue of THE JOURNAL.

The resolutions are printed in numerical order under the Minutes of the Second House of Delegates meeting. Resolutions Nos. 77-5 and 77-21 had been placed on the consent calendar and were adopted at the meeting of the First House of Delegates on Sunday, May 1, 1977.

The resolutions which were not adopted, but which were referred to the Council for further study or information, are so indicated. The resolutions which failed to pass are retained in the official minutes at the Executive Office, but are not recorded here.

FIRST SESSION

The first session of the House of Delegates of the Kansas Medical Society met on Sunday, May 1, 1977, beginning at 9:00 AM, at the Broadview Hotel, Wichita. The meeting was called to order by Clair C. Conard, M.D., Speaker, who explained the composition of the House, and placed some rules before the body, which he said would be followed until such time as the House elected to challenge them.

Charles R. Jackson, M.D., President of the Medical Society of Sedgwick County, extended a welcome and expressed appreciation to the Kansas Medical Society for holding its meeting in Wichita this year.

Minutes of the May and November 1976 meetings of the House of Delegates were approved.

The Speaker announced the following appointments to the Reference Committee: Drs. Robert P. Hudson, Kansas City, Chairman; Alex Scott, Junction City, Vice-Chairman; Carl C. Gunter, Quinter; Antonio Huaman, Topeka; and Charles R. Jackson, Wichita.

The following tellers were appointed: Drs. Lawrence E. Woodard, Wichita, Chairman; Kenneth L. Lohmeyer, Emporia; and Gilbert N. Casady, Hutchinson.

David E. Gray, M.D., Editor, was presented with a plaque for outstanding service to Kansas medicine.

The House heard an address by Tom Nesbitt, M.D., Speaker of the AMA House of Delegates. He discussed various AMA programs, and also referred to the 60-per cent error rate in the HEW listing of physicians receiving $100,000 or more from Medicaid; the recently announced postage-due bill for $1 million from the Postal Service; and the bill that would classify interns and residents as employees rather than students, for negotiation purposes. He also explained the AMA's proposal for national health insurance, describing it as a proposal for a health insurance policy rather than a national health service with government employed physicians. Dr. Nesbitt also referred to the assault on professionalism by the Federal Trade Commission.

In the absence of Edward G. Campbell, M.D., Treasurer, the Treasurer's Report was given by Mrs. Val Braun, Executive Assistant.

The Report of the Executive Director was given by Mr. Jerry Slaughter.

The House also heard the following reports, after which the session was adjourned at 12:20 PM.

Constitutional Secretary—Phillip A. Godwin, M.D.

Phillip A. Godwin, M.D., Constitutional Secretary, presented the following summary of the membership of the Society for 1977:

Dues Paid Members	1,740
Resident Members	12
Emeritus Members	95
Leave-of-Absence Members	20
Personal Exemption Members	2
Retired Members	140
Service Members (Armed Forces)	5
Student Members	8
Honorary Members	3
Delinquent Members	242
Total	2,267

This compares with the membership in previous years as follows:

1970 Total Membership	1,921
1971 Total Membership	1,990
1972 Total Membership	2,003
1973 Total Membership	2,033
1974 Total Membership	2,078
1975 Total Membersnip	2,137
1976 Total Membership	2,205

Legislative Committee—Jimmie A. Gleason, M.D., Chairman

The 1977 legislative session was a busy one for health care legislation. As usual, several groups tried to gain greater recognition by introducing licensing laws. The naturopaths, speech pathologists, audiologists, and alco-

holism counselors all attempted to pass licensing laws, but none of those groups were successful.

Several other groups attempted to broaden their practice or professional privileges this session. They include:

Chiropractors. S.B. 90 would have expanded chiropractors' privileges to allow them to draw blood for diagnostic purposes. Although the bill passed the Senate, it eventually was held over in the House Public Health and Welfare Committee, and it will be considered again next year.

Pharmacists. S.B. 108 would have authorized pharmacists to exercise brand exchange when filling and dispensing prescription drugs. This bill also passed the Senate by a wide margin, but it was killed by the House Public Health and Welfare Committee. Undoubtedly, the bill will again be introduced next year.

Optometrists. S.B. 126 expands the practice privileges of optometrists to allow them to utilize topical anesthetics, mydriatics, and cycloplegics for diagnostic purposes. The bill passed both houses by substantial margins, and has been signed into law by the Governor. We opposed the bill even though some ophthalmologists spoke out very forcefully in favor of the measure.

There was not a lot of activity in the area of professional liability this year, primarily because the legislature was hesitant to act on any bills until the constitutional test of S.B. 646 is completed. The Commission on Professional Liability has been working and will have several bills introduced next year that will strengthen the existing laws and bring about other much needed changes.

There was a tremendous amount of legislative concern in the area of physician manpower and distribution. Two bills, H.B. 2264 and S.B. 447, although slightly different in specifics, would have drastically altered the financing of a medical education in the state. Both bills would have required medical students to serve a specified length of time in the state upon completion of their training, in return for the state financing all or part of their medical education. Although the two bills have been killed for the present, it is certain they will be resurrected for the 1978 legislative session, and the sense of urgency in the legislature would lead us to believe that something will be done very soon if not next year.

There were two bills introduced on the subject of Physicians Assistants. Both bills were held in committee and an interim study will be charged with writing a comprehensive bill dealing with the use of PAs in the state. The interim committee has not been appointed yet, but we will keep close contact on the committee's work and participate fully in their deliberations this summer.

On the last day of the session, the legislature authorized the establishment of the so-called "Affiliated Family Practice Residency Programs." The three locations being considered for the residency programs are Salina, Topeka, and Garden City.

There was a great deal of furor this year over the Kansas Medicaid program. As many of you know, Title XIX (Medicaid) had to ask the 1977 Legislature for a $19 million supplemental appropriation just to carry them through the balance of this fiscal year. Several bills were introduced which contained a variety of schemes designed to lower the cost of the Medicaid program. When the dust finally settled, no changes in the Medicaid law were made, although the appropriations for the next fiscal year were reduced substantially. The net result will be a tightening up of eligibility requirements for the program and a reduced scope of benefits available to the Medicaid population. In a related action, the legislature authorized the establishment of a Health Care Cost Commission, which will be charged with conducting an extensive examination of the Medicaid program, the goal of which is to eventually reduce the overall cost. The commission is required to report back to the legislature on their findings at a later date.

Those are some of the highlights of the 1977 legislative session. Every medical society member will receive a complete summary of actions on health-related issues in about two weeks. If you have any specific questions about legislation, please feel free to contact the KMS office in Topeka. Thank you.

KaMPAC—
Antonio Huaman, M.D., Chairman

The Kansas Medical Political Action Committee has had a very active year since the report of Dr. Thomas Taylor to this House, a year ago. This activity is reflected in two areas.

The membership reached an all-time high of 600 active members and 48 sustaining members. This is, however, too shy of a potential membership that includes the membership of the Kansas Medical Society and Auxiliary.

KaMPAC, during the general elections of 1976, financially supported races for federal office and the Kansas legislature. Our support was given to Republicans and Democrats, considering the candidate's voting record if incumbent and his position on issues if a challenger. We supported and won in 77 per cent of the races we selected:

	Supported	*Election Won*
U. S. Representative	4	2
The Kansas Senate	13	8
The Kansas House	23	21

During the year 1977-78, the Board of Directors is planning an education and membership drive, in preparation for the election year of 1978.

We intend to take political action to the grass roots of the potential membership by local members in each component society of the Kansas Medical Society and Auxiliary, and by presenting a program on political action in as many of the county societies as possible. Those of you serving as officers of the county society will be asked to set aside a monthly meeting for a guest speaker from our ranks.

We are organizing, in cooperation with AMPAC, a political workshop to be held on November 12, 1977. I take this opportunity to invite you and your spouse to this workshop, to gain firsthand information on the issues of interest to medicine from national and state political leaders.

I take this opportunity to thank the Kansas Medical Society for its contribution to our educational fund. These funds cannot be used for candidate support. I also thank those members present here who have contributed to our political fund and to all who will contribute this year. Political money has to come directly from you through membership in KaMPAC.

While we are enjoying Wichita's hospitality, during our convention, I take the pleasure, on behalf of the Board of Directors, to invite you, your spouse and friends to our hospitality suite between 4:00 and 6:00 PM in the Cork Room of the Broadview Hotel.

I would like to finish this report with a request for support. Support does not stop with money, but in total commitment to the political aspects of the practice of medicine. We do have some advantages to others to capitalize on: Medicine is still at the top of professions that American parents would like their children to be in. We are educated and resourceful and there is no reason why we should not show "muscle" in political confrontation of medicine with government organization and the media.

Thank you very much for your attention.

Auxiliary—
Mrs. Clair J. Cavanaugh, President

It is with sincere appreciation that I thank you for giving me the opportunity to visit with you this morning. Briefly, I wish to share with you some of our Auxiliary goals. They include:

1. Physical fitness for physicians and families, and more family participation in sports and travel.

2. Increased membership. We achieved this goal despite an increase in state and national dues. We ask your support in your communities with new physicians' wives. $14 a year is not exorbitant, and is tax deductible. We now have our first male member.

3. Increased donations to AMA-ERF. KUMC received the fifth largest amount of monies of all medical schools in the U. S. and Canada: $21,473.86 for KUMC, and $1,265.71 for Wichita Branch. We thank you for your support, and hope you will increase your donations.

4. Members became more knowledgeable about the Kansas Legislature, and worked for promotion or defeat of bills affecting medicine. We were most active on the medical school tuition bill.

5. Improved communications among Auxiliary members, physicians, and local communities. Our communities have been good to us, and we should be loyal to them.

6. Small auxiliaries and individuals participated actively in membership, AMA-ERF, international health, and legislation.

My personal activities during the past year included:

1. Attendance of AMPAC workshop, Washington, D. C.

2. Attendance of the AMA Auxiliary convention in Dallas, where we had the honor of presenting Mrs. Chester Young, National Auxiliary President-Elect to the Auxiliary House of Delegates.

3. Holding our first summer board meeting in Great Bend, with a varied program, including a presentation on "Wills, Trusts, and Estate Planning."

4. Joined by officers on a fall swing to three organized and two unorganized auxiliaries.

5. Traveled to three workshops in western Kansas.

6. Attended the fall confluence in Chicago, together with the president-elect and four county presidents-elect.

7. Attended the AMA leadership seminar in Chicago.

8. Held the first mid-winter board meetng in Salina, featuring the following:

a. Theme of a learning and sharing experience;

b. National President, Betty Garner, Connecticut, was our guest;

c. Dr. Herb Modlin address: Impaired Physician, Impaired Spouse, and Stresses on the Medical Marriage;

d. Round table discussion groups: Douglas County Good Cheer program, Kansas legislative problems affecting medicine, Long range planning for our Auxiliary, Health education in the schools, Riley County book fund raising project, Improvements needed in Kansas nursing homes;

e. Movie, "Violence on TV, and Impact on Children";

f. Counseling adolescents.

9. Two-day KUMC visit including a luncheon, presentations, and a tour of the facilities. All attended the legislative sessions in Topeka on the following day.

10. Visited all but one of our organized 28 auxiliaries; was a guest of the KUMC Hospital Auxiliary, and visited the Resiterns Wives in Kansas City and Wichita.

11. Addressed the Great Bend Lions, Rotary, and Kiwanis groups, plus three home demonstration units.

12. Mailed 1,673 letters, plus many post cards and requested mailings.

All Auxiliary members have been encouraged to participate in at least one community service project. There is something for all interested spouses in our Auxiliary program. Incidentally, a Labette county widow is active in the AMA Retired Physicians and Widows group.

Thank you for your excellent support during the past year.

Editorial Board Report—
David E. Gray, M.D., Editor

This is the season when delegations are gathering in a sort of corporate "Rites of Spring," in which they assess the damage of the past year and create some more for the coming year. In the past, I have envied the talents of the writers of corporation annual reports by which they could make the organization's death rattle sound like a call to a victory feast. Not so this year, for your journal is enjoying a heady potion of solvency. As you know, a couple of years ago, the subscription price was raised and, with a captive list of subscribers, that's a money raising technique that is hard to beat. Beside that, it was decided that the April issue would be devoted entirely to the program for the upcoming meeting, by which unsubtle maneuver the Society would have to pay the whole cost of that issue, thereby adding a little frosting to our cake.

In fact, these actions have improved our financial state to the degree that this year we informed the Council that we would again assume the expense of that issue. Being totally unaccustomed to having anyone make such magnanimous gestures, the Council reacted not ungratefully but with a puzzled consternation, which prompts us to resolve not to do such a thing again. And in view of the frequency with which our publisher reports, with a touching tone of regret, that the price of paper and ink have risen again, that is a resolution which won't be hard to keep.

The year has seen some changes in the seating arrangement at the editorial table. As you know, Orville Clark, who served well for 18 years as editor, relinquished that position when he retired from active practice in 1970. He reverted to regular membership on the Editorial Board and has continued in that capacity since that time while dividing his time between Topeka and St. Petersburg, Florida. This year, for what reason no one can imagine, he decided to make the switch permanent—as well as his retirement from the Board. We were reluctant to lose the benefits of his experience and interest, however, and being unhampered by constitutional instruction or restriction, we have created a position of Editorial Consultant, which post he now assumes. We assure you, as we did him, that this is not a pasturizing process by which he is being put out to graze, but that he will be called upon—as he already has been—to lend a hand with a job he knows better than any other. Beside which, there has been some discussion by the Board that if the financial report continues to improve, we just may go ahead and hold one of our meetings in St. Petersburg.

To replace Dr. Clark on the active Board, we have tapped Dr. M. Martin Halley of Topeka. I know he needs no introduction to you. His credentials are impeccable except for evidence of a minor indiscretion. He does have a law degree, but in these days of roots no one can go far into his background without tripping over a bar sinister of some sort. Besides which, we may find that feature more valuable than his surgical acumen if the current liability climate continues. So, we welcome Dr. Halley and look forward to benefiting from his many talents.

Our professonal prestige continues at its same satisfactory level, which means that a considerable number of authors would rather have their work published by us than elsewhere, or not at all, and the Board agrees with enough of them to remain viable. A highly unscientific survey based on occasional communications from our readers indicates that approval of our offerings is just about equalled by disapproval—though not necessarily the same offerings. So, even as we continue to try to upgrade the JOURNAL, we feel it continues to justify its existence. We hope you agree, and invite your advice if you do not.

It remains for me once more to acknowledge the help and support that have been rendered by Val Braun. As usual, it is a challenge to me to express my admiration and appreciation for this lady's talents and still remain on speaking terms with my wife and her husband. As you know, these talents have led to her acquiring increasing responsibility in the staff functioning of the Kansas Medical Society, and we are flattered that with it all she has chosen to retain her identity as

Managing Editor of the JOURNAL and she continues to be its most important element.

So, once again, you have been officially reminded that you have a state medical journal, that your caretakers are maintaining a continuing and vigilant control over its destinies, and your wishes are our command—sort of.

Necrology Committee Report—
David E. Gray, M.D., Chairman

Each year, as the Secretary counts the new members and the Necrology Committee reports on those who have died, I am reminded of the observation of one who may seem a strange one to quote in a necrology report —Ogden Nash. But as he approached old age, he commented—

> As I look back on bygone days,
> I think how evening follows morn—
> So many I loved were not yet dead,
> So many I love were not yet born.

In the past year, the Kansas Medical Society has lost the following members:

Name and Address	*Age*	*Date*
Gregg B. Athay, *Columbus*	68	Jan. 27, 1977
John F. Barr, *Ottawa*	74	Aug. 18, 1976
Julius W. Bell, *Abilene*	61	Sept. 24, 1976
Dan L. Berger, *Shawnee Mission*	58	May 4, 1976
Fred P. Bestgen, *Manhattan*	81	Oct. 4, 1976
Claude D. Bonham, *Topeka*	75	May 9, 1976
William P. Callahan, *Wichita*	87	July 31, 1976
David L. Coe, *Kansas City, KS*	40	Oct. 5, 1976
Elva Elton Edwards, *Emporia*	93	Nov. 8, 1976
Howard R. Elliott, *Pittsburg*	62	Sept. 18, 1976
Darrell Lee Evans, *Manhattan*	73	Oct. 28, 1976
Marshall B. Flowers, *Anthony*	92	Oct. 25, 1976
Wendell A. Grosjean, *Winfield*	70	June 1, 1976
Wilson K. Hobart, *Topeka*	89	Mar. 17, 1977
Harold V. Holter, *Kansas City, KS*	73	June 22, 1976
J. Allen Howell, *Wellington*	70	Nov. 8, 1976
Arnold G. Isaac, *Newton*	82	April 9, 1976
Lester A. Latimer, *Alexander*	91	July 12, 1976
Sherburne MacLeod, *Wichita*	69	July 15, 1976
Ralph R. Melton, *Marion*	70	July 29, 1976
Anthony W. Miles, *Wichita*	65	Mar. 27, 1977
Paul J. O'Connell, *Kansas City, MO*	88	Apr. 30, 1976
Dean Brownfield Parker, *Ness City*	71	May 10, 1976
Arthur L. Pettis, *El Dorado*	89	Apr. 11, 1976
Manuel E. Pusitz, *Topeka*	72	Feb. 5, 1977
Omer M. Raines, *Topeka*	78	Apr. 9, 1977
Harvey S. Smith, *Concordia*	63	Sept. 16, 1976
Richard E. Speirs, *Dodge City*	65	Dec. 6, 1976
S. V. Vaidynathan, *Winfield*	46	May 9, 1976

And, although it is not carried on the official membership rolls, I would be remiss if I failed to include the name of Oliver E. Ebel, Topeka.

The Kansas Foundation for Medical Care—
Kenneth L. Graham, M.D., President

The Kansas Foundation for Medical Care is now in the final stages of negotiation on a conditional PSRO contract. There are three areas of the contract left to negotiate at this time: data subcontract; reconsiderations, hearings and appeals; and the budget. When these three areas of negotiation have been mutually agreed upon by the KFMC Board of Directors and the Bureau of Quality Assurance of HEW, the Foundation will assume the responsibility for conducting PSRO in Kansas. The target date for signing the conditional contract is July 1, 1977.

In July, each acute care hospital in the state will be notified of the steps to take in order to become a delegated hospital under PSRO. If the target date of July 1 is met, it is anticipated that the Foundation will be ready to delegate the first hospital in October or November. When that event takes place will depend on which organization the Foundation chooses to be its data subcontractor.

At a meeting of the Board of Directors this morning, the present officers of the Foundation were asked to continue serving until the conditional PSRO contract is signed. By law, the Foundation must hold an election of officers and board members shortly after the conditional PSRO contract is signed.

The President—
Emerson Yoder, M.D.

Once yearly is not too often to look upon ourselves and each other for purposes of evaluation. This is a report to cover activities, achievements, and perhaps some suggestions of planning for next year's crew, so they can do some of the things we didn't get done.

First, we have all been grieved by the passing of our dear friend, Oliver Ebel, who was "Mr. Kansas Medical Society" for so many years. I will not try to sing his praises, though if each of us did who would like to, it would constitute quite a chorus. I thought Dr. Gray did a fine evaluation in this month's issue of our JOURNAL. Perhaps the best way to evaluate a man's life is by what he leaves behind. For the Kansas Medical Society, Oliver Ebel leaves a beautifully functioning office and organization with an administrative staff he had trained and indoctrinated who are second to none. May God rest his soul.

One accomplishment of the year in our home office at 1300 Topeka was the addition of a large basement room, decorated and equipped, which is now being used for committee meetings with food being catered in. It is lovely—it saves us money—it is pleasant to work in. I suggest that every one of you, the next time you are in Topeka, go to see our home base. You will be welcome.

Please believe me also when I say that you have

never seen a harder worker and a finer functioning young executive director than Jerry Slaughter. If you do not believe this, you have not seen him at work. He deserves the thanks of each of us.

I would like to express personally, and on behalf of the Society, my appreciation for the work of our AMA delegates and alternates. They are: Drs. Clair Conard, Lew Purinton, Ned Burket, and Alex Scott. They represent us well and are dedicated to their job. Gentlemen, we thank you.

My appreciation also to Dr. James Gleason, for chairing our Legislative Committee. He has been faithful to the job, and has done it well in legislative milieu which is not easy to labor in. Thanks, Jim.

Kansas Legislature this year dealt with many bills which relate to medical and health care. Perhaps of greatest interest are the following: (1) Optometric use of drugs; (2) Increased privileges for chiropractors; (3) Medical student tuition and involuntary servitude; and (4) Prescription drugs brand exchange. Dr. Gleason will tell you more about these and other bills; it seems our efforts were rewarded in all except the first.

Other members whose work deserves our thanks is Dr. Lew Purinton and the Education Commission, in implementing the CME program. Thanks a lot, Lew. He has been assisted throughout by our hard-working and very capable Executive Assistant, Gary Caruthers, who is a real asset to the staff.

During the past year, the Kansas Medical Society and the Kansas Farm Bureau have been working together to organize and implement a program which is designed to help gain admission to the Kansas University School of Medicine for students who are interested in helping to fill the need for doctors in rural areas, and then to provide loans to help them with their finances. We have jointly organized the Kansas Medical Service Project, Inc. It will be known as MEDISERVE. Last Tuesday night, we approved the articles of incorporation and the bylaws. You will hear more about this soon.

Our other hard-working and talented Executive Assistant, Val Braun, has done a fine job of organizing and conducting workshops for doctors' office assistants over the state. Over 500 assistants have attended.

These are just a few of our accomplishments. Much remains to be done. The Kansas Medical Society and the Kansas University School of Medicine must organize and work together a lot this summer, to do more toward making medical service and health care generally available to rural and medically underserved areas. If we fail, we can expect something we may not like from our legislature.

Our thanks to every KMS officer, commission and committee chairman, and every member who has worked on any committee this past year. To our office staff, administrative and clerical, we thank you. It has been a great pleasure to serve as your President this year. Thank you.

SECOND SESSION

The second session of the House of Delegates was called to order by the Speaker, Clair C. Conard, M.D., at 8:30 AM on Wednesday, May 4, 1977, at the Broadview Hotel, Wichita.

Ballots for the election of officers were distributed, and the following results reported:

PRESIDENT-ELECT: Warren E. Meyer, Wichita
FIRST VICE PRESIDENT: Donald D. Goering, Salina
SECOND VICE PRESIDENT: Phillip A. Godwin, Lawrence
CONSTITUTIONAL SECRETARY: Jack R. Cooper, Shawnee Mission
TREASURER: William K. Walker, Sedan
AMA DELEGATE 1978/79: Clair C. Conard, Dodge City
AMA ALTERNATE DELEGATE 1978/79: Lew W. Purinton, Wichita
SPEAKER: Clair C. Conard, Dodge City
VICE SPEAKER: John O. Yulich, Kansas City

The following results of Councilor elections were announced:

DISTRICT 6—Millard C. Spencer, Topeka
DISTRICT 7—Marvin D. Snowbarger, Emporia
DISTRICT 10—Herbert Fransen, Newton
DISTRICT 12—Philip J. Antrim, Anthony
DISTRICT 16—Floyd L. Smith, Jr., Colby
DISTRICT 18—Robert W. Hughes, Lawrence

John N. Blank, M.D. extended a formal invitation to the Kansas Medical Society in behalf of the Reno County Medical Society, to hold its 120th Annual Meeting in Hutchinson, at the newly completed Holiday Inn Convention Center, May 6-9, 1979.

Dr. Yoder handed the gavel to the incoming President, John D. Huff, M.D., of Kansas City. Dr. Huff duly installed the new officers, the Speaker, and the Vice-Speaker of the House of Delegates. He then delivered a brief address, after which the House of Delegates adjourned at 12:30 PM.

RESOLUTION NO. 77-1

Not adopted. Referred to the Council.

Verification of CME

WHEREAS, The Kansas Medical Society requires con-

tinuing medical education for continued membership; and

WHEREAS, The Kansas Board of Healing Arts requires specified continuing medical education for maintenance of license to practice in Kansas; and

WHEREAS, The Board of Healing Arts accepts the certification of the Kansas Medical Society that physicians have attained the quantity and kind of continuing medical education to fulfill the said requirements of the Board of Healing Arts; and

WHEREAS, The Kansas Medical Society accepts the Physician's Recognition Award of the American Medical Association, membership in the American Academy of Family Practice and like credentials of some specialty medical organizations; and

WHEREAS, Many physicians are not members of the American Medical Association, American Academy of Family Practice or any other society recognized by Kansas Medical Society or the Board of Healing Arts; and

WHEREAS, Physicians who are not members of these organizations may not wish to petition them to certify their continuing medical education, especially when doing so costs them substantial amounts of money; and

WHEREAS, It seems appropriate that Kansas Medical Society have some autonomous ability to certify the fulfillment of continuing medical education requirements; and

WHEREAS, Such an autonomous capabilty would encumber Kansas Medical Society with additional amounts of money for which allotments from members dues are not available; therefore be it

Resolved, That the House of Delegates authorize the Continuing Education Committee to establish an independent mechanism for certifying continuing medical education; and be it further

Resolved, That the Continuing Education Committee be authorized to establish a fee for such a service sufficient to defray the cost of such service, not to exceed One Hundred Dollars ($100.00).

RESOLUTION NO. 77-2

Speech Pathologists and Audiologists

Resolved, That the Kansas Medical Society oppose the independent licensure of Speech Pathologists and Audiologists.

ADDENDUM

Resolved, That the Kansas Medical Society oppose the independent licensure of Speech Pathologists and Audiologists for the following reasons:

1. Neither Speech Pathologists or Audiologists are medically trained and are, therefore, unqualified to perform any diagnostic procedures or other medically related activities. Their training limits them to the measuring of hearing and to the use of certain training techniques for people with speech and hearing disorders.

2. The merits of this licensure is not supported by the number of Speech Pathologists and Audiologists that would be covered by this law. It has been estimated that no more than 15-18 people in the state of Kansas, who are engaged in private practice, will be affected by this proposed law.

3. The need for this proposed law is also questioned by the fact that no complaints have ever been filed by consumers of the state of Kansas in the area of speech pathology or audiology.

4. A law of this type, although favorably written at the beginning, could, in the future, be amended to exclude, or limit, the physician or personnel working under his supervision from performing these tasks.

5. A law of this type will have inflationary effects on the cost of health care, since one of the requirements is that a Master's Degree would be necessary for anyone performing these measurements of hearing. The impact on the cost of services to the rural areas of the state of Kansas is predictable.

6. No attempt has been made by the Speech Pathologists or Audiologists to seek the advice and expertise of the Kansas State Board of Healing Arts as to jurisdiction, formulation, or other matters regarding this proposed licensure.

RESOLUTION NO. 77-3

Not adopted.

RESOLUTION NO. 77-4

Fall House of Delegates Meeting

WHEREAS, The By-Laws require a Fall Meeting of the House of Delegates, even though such meetings are not always necessary; therefore be it

Resolved, That Section 5.54 et seq. of the By-Laws be repealed.

RESOLUTION NO. 77-5

Political Action

WHEREAS, The practice of medicine is constantly influenced by acts of the Kansas Legislature and the U.S. Congress; and

WHEREAS, The only effective means of influencing medical legislation is by the election of well informed "friends of medicine," who are accessible to the medical practitioners; and

WHEREAS, Political action is regulated by the Federal Election Commission widely practiced by labor and professional groups; therefore be it

Resolved, That Kansas physicians become politically active in the ranks of the Kansas Medical Political Action Committee or any other effective group; and be it further

Resolved, That Kansas physicians support, financially and liberally, candidates who are "friends of medicine"; and be it further

Resolved, That Kansas physicians consider it a responsibility of our profession to constantly inform elected and prospective legislators about the views of the practicing physicians on the issues that concern the health of our citizens.

RESOLUTION NO. 77-6

National Health Insurance

WHEREAS, The American Medical Association House of Delegates on December 7, 1976, adopted "Report QQ" prepared by the Trustees and Staff of the AMA; and

WHEREAS, "Report QQ" directs support of HR-6222, better known as the AMA's bill on National Health Insurance, currently identified as HR-1818 and S-218; and

WHEREAS, The vote by the House of Delegates of the AMA was 181 to 57 for adoption; therefore be it

Resolved, That the Kansas Medical Society continue to oppose any form of federally controlled health insurance for our nation; and be it further

Resolved, That a copy of this resolution be sent to the AMA; AAPS; Representative Paul Rogers (D-Fla.), Chairman of the Health Subcommittee of the House Interstate and Foreign Commerce Committee; to all Kansas Congressmen; and both Senators from Kansas.

Addendum to Resolution No. 77-6

The following material was presented by Joseph I. Berman, M.D., M.P.H., at the AMA Conference in San Francisco, April 11, 1975. Dr. Berman is Chairman, Peer Review Committee, Medical and Chirurgical Faculty of Maryland, and Chief, Department of Community Medicine, Sinai Hospital of Baltimore, Inc.

Reprinted from *Maryland State Medical Journal,* February 1976.

Introduction

Maryland does not have a disabled physician act per se. Rather, the disabled physician is covered in the law dealing with physician discipline.

As the result of legislation passed by the Maryland General Assembly in the spring of 1969, the Commission on Medical Discipline, a state agency, was established and became operational in July of that year. The creation of this Commission and the unique relationship of the State Commission to the Maryland Medical Society (The Medical and Chirurgical Faculty of Maryland) has resulted in major changes in the manner in which physicians suspected of improper medical practice, whether they be ill or not, are dealt with in the State of Maryland.

Situation Prior to 1969

Until July 1969, the Board of Medical Examiners of the State of Maryland was responsible for physician discipline. The Board is made up of eight physicians who are elected by the membership of the Medical and Chirurgical Faculty. The Board had a number of duties besides the responsibility for physician discipline, and except for physician discipline it maintains these other responsibilities to the present. These include: examining and licensing physicians in practice in Maryland, collecting fees, maintaining a physician registry and establishing qualifications for certain groups to whom physicians may delegate duties, including cardiac rescue technicians and physicians' assistants. Until 1969, the Board of Medical Examiners was the single group responsible for giving medical licenses and also for revoking, suspending or putting on probation those physicians who had licenses in the State.

As I will point out, those members of the State Medical Society who were instrumental in changing the Maryland law dealing with the disciplining of physicians felt that it was improper for one agency to be given both responsibilities.

The Maryland Annotated Code prior to 1969 stated that the Board of Medical Examiners could revoke or suspend a physician's license, or place him on probation, for any of the following causes: (1) Use of fraud in obtaining a medical license; (2) Habitual drunkenness; (3) Insanity, as determined by the Maryland Code; (4) Addiction to narcotics; (5) Abortion, as determined by the Maryland Code; (6) Conviction of a crime involving moral turpitude or unprofessional or dishonorable conduct.

The law further stated that a physician could appeal an action taken against him by the Board of Medical Examiners. During the period in which these appeals were taking place the physician could continue to practice medicine.

Formulation of a New Law

In 1965, an ad hoc committee of the State Medical

Society began meeting to consider the law then on the statute books and to suggest possible changes to improve it.

Frustration and concern are the two best words that would sum up the creation of this ad hoc committee of the Medical Society. The frustration centered upon the relative ineffectiveness of the then Board of Medical Examiners in dealing with the physicians who were practicing badly, either because of ignorance, avarice or illness. It was felt that the Board acted too slowly because of the responsibilities of the board in having to also act as a licensing body. However, even if the Board met more frequently and devoted more time to the problems of poorly practicing and functioning physicians, the law in Maryland as written at that time would still have rendered the Board relatively ineffective.

The Board of Medical Examiners had no subpoena power and no power to put witnesses under oath, with all the attendant sanctions of perjury. The Board, acting with advice of the Attorney General's Office, construed the law concerning the disciplining of physicians strictly. They thought that they could not revoke or suspend a physician's license to practice unless and until that physician was convicted of a crime. In the absence of such a conviction, rarely gained, the Board uniformly approached the matter as one in which other (but less effective) disciplinary actions could be taken.

There was also considerable frustration about the fact that the Medical Society itself had no statutory recognition in the old law and thus no defined role in dealing with physicians practicing badly for whatever reason. Physicians could be and were called before committees of the Medical Society, most often the Mediation Committee; however, there was no compulsion for nonmembers of the Medical Society to respond to the request by the Medical Society to come in and discuss a problem. As one physician stated: "We would write and ask those individuals who were nonmembers of the Society to come in so we could investigate the charges which were made against them. In many instances they did not even bother to answer letters."

The concern lay with this awareness that the law did not permit physicians to effectively keep their own house in order and thus protect the public from certain doctors who were practicing badly. The State legislators were aware of these problems, and increasingly pointed questions were being asked of the Medical Society leadership as to why the situation was being allowed to continue. At the time that this ad hoc committee presented its recommendations to the Medical Society's House of Delegates in 1967, the question seemed to be not whether the law concerning disciplining of physicians would be changed, but by whom.

Over a period of approximately two years, from 1965 to 1967, this ad hoc committee debated over a new law for Maryland that would better deal with the poorly-practicing physician, whatever his problem. No particular mention of the sick doctor was made in the deliberations that I reviewed. Rather, the committee tried to set down principles which could be made into law, that would deal with matters of medical ethics and illegal conduct—and that could apply to the sick physician.

After two meetings with the Medical Society's House of Delegates, the recommendations of the original ad hoc committee, with modification, was adopted. The recommendations were then drafted into a proposed law and were introduced in the Maryland General Assembly in the spring of 1969. These recommendations were accepted by the State legislators with few changes and they became law as of July 1, 1969. It is this law, as developed by the physician leadership of the State of Maryland, with subsequent amendments, that I will now describe.

Present Law Concerning Physician Discipline

Article 43, Section 130, of the Annotated Code of Maryland contains the statute concerning discipline of physicians. It is a far different statute than the one I described at the beginning of my talk.

A State Commission on Medical Discipline was established which assumed the responsibilities for the disciplining of physicians. The responsibility that had resided in the Board of Medical Examiners was removed from that body.

Nine physicians sit on this Commission. They include the President and the Chairman of the Council of the Medical and Chirurgical Faculty, two physicians appointed by the Governor, selected from a list submitted by the State Medical Society, with that list having been composed from a list of nominees submitted by component (county) societies, two other licensed practicing physicians appointed by the governor and, finally, three members of the Board of Medical Examiners selected by that Board. Considerable hard bargaining resulted in this Board composition. Members of the Commission are not salaried, but receive reimbursement for actual expenses.

The Commission functions under the Administrative Procedures Act of the State of Maryland which insures due process to the physician appearing before the Commission. This also gives the Commission the power to subpoena and makes the physician liable to prosecution if he perjures himself during the course of the Commission's deliberations. The physician has the right to cross-examine witnesses and all evidence becomes part of the record.

What is particularly unique is the relationship established between the Commission on Medical Discipline and the Medical Society. The law declares that the Commission will refer any cases coming to its attention to the appropriate local county society or committee of the Medical Faculty of the State of Maryland for their investigation and report. The report to the Commission must contain such recommendations as the investigation by the Medical Society reveals might be necessary for adequate disciplinary procedures. The recommendations are then considered by the Commission, which takes whatever action it deems appropriate, as provided in the law.

Among the major criticisms of the old law and the Board of Medical Examiners was the fact that the Board initiated its own investigation and then decided on the merits of the case. There was concern that this could deny the physician an unbiased hearing. The new law requires that the Commission, a state agency, after being presented a problem, must then refer the case to the county or state society for investigation and recommendations. The medical society is given responsibility in this law that it never had in the earlier law. While the final decision lies with the Commission, the recommendations of the medical society obviously have major importance.

The law goes on to state that the local or state society may initiate action by virtue of information coming to its attention from its own members or through any other source, such cases being handled in the same manner as though they had been referred to it by the Commission.

Thus, the medical society may become involved either because of information coming directly to it or because of a request for investigation from the Commission on Medical Discipline.

In those complaints which begin with the medical society, either state or local, the physicians on the appropriate committees hear the problem and try to solve it locally. The medical society acts as adviser and educator to the physician.

Where, however, after investigation of the problem, the physician members of the state or local society feel that some action against a doctor's license may be indicated, they can send the results of their investigation to the Commission with recommendation for further action. The vast majority of cases coming before state or local society committees are dealt with locally and never go to the Commission. In those cases where the medical society committee feels that the state commission should take action against a physician, it is behaving somewhat like a grand jury.

The Commission has worked out a set of rules for its own government and these are still being revised and worked upon.

At the present time, the chairman of the Commission, upon receiving a report and recommendations from a medical society, will select two members of the Commission to review the case and if necessary to discuss the case with the referring society's committee. These two men will then make recommendations to the chairman of the Commission as to whether they feel, in their judgment, that a serious problem exists, warranting Commission review.

The two commissioners who review the evidence and work with the local society committee do not subsequently participate in the Commission's deliberations upon that particular case because of possible bias. A lawyer for the Commission, working independently, develops the evidence and acts as a prosecuting attorney during the Commission's hearing. The physician is entitled to bring his own attorney to help with his defense. The seven remaining Commission members then act as a jury. Members of the concerned medical society committee may be called as witnesses during the Commission's hearing.

It was the intent of those who created this Commission that the Commission be used only as a last resort and that the local and state societies deal with the majority of problems. The desire was to keep physician peer review with physicians at the local level as much as possible.

When a physician refuses to appear before a medical society committee, either state or local, the society can then ask the Commission to subpoena the doctor to appear before the society committee. The relationship spelled out between the Commission and the medical society investigating the case makes this possible. Nonmembership in the medical society does not in any way protect the physician from this medical society review.

The Commission has the power to reprimand the physician or place him on probation, revoke or suspend his license, for any of 18 causes. Space does not allow review of all of these, listed as unprofessional conduct. They were originally culled from the Medical Practice Acts of several other states, from the causes listed in the earlier Maryland law and from the American Medical Association's Principles of Medical Ethics. Those pertaining to the sick physician would include Number 6 (Addiction to narcotics, habitual drunkenness, or rendering professional services to a patient if the physician is intoxicated or under the influence of drugs); and Number 18 (Professional or mental incompetency). Number 18 has been amended and the word "physical" added after July 1, 1975, reading "professional, physical or mental incompetency."

Additional legislation was passed in the Maryland

Legislature in 1975, to broaden the Commission's powers. This amendment gives the Commission the power to compel a Doctor of Medicine to submit to a mental or physical examination by a physician designated by the Commission during the course of an investigation. The cost will be borne by the Commission. Failure of doctor to submit to such an examination when directed can constitute an admission of the allegations against him. A Doctor of Medicine, licensed under the Medical Practice Act of Maryland, who accepts the privileges of practice is deemed to have given his consent to submit to a mental or physical examination when directed to do so by the Commission. A physician whose license is affected under this proceeding shall be given an opportunity at reasonable intervals to demonstrate that he is capable of resuming competent practice of medicine.

In legislation as originally passed in 1969, the physician if found guilty had the right to appeal to the courts. The original law stated that where judicial review was sought a license revocation would be stayed and would not commence until final judgment had been rendered and the licensee's judicial remedies exhausted. This was the same situation as existed within the Board of Medical Examiners where sick physicians could continue to practice while court procedures dragged on for years.

Amendment to the Medical Practice Act made in 1974 states that if a physician is found guilty of unprofessional conduct by the Commission and his license is revoked or suspended, revocation or suspension shall not be stayed and shall be effective and commence to run immediately. The stay is no longer automatic; rather the Commission's order is.

Problems

Problems have arisen as a result of this new law and the unique relationship between the state commission and the medical society.

There has been considerable debate over the protection of the physician's rights while he is appearing before a medical society committee. A physician may make statements which a society's committee could use against him if it decides to make recommendations to the Board for action against a physician's license.

The physician needs to know this and also that he can remain silent or bring an attorney before the society's committee if he so chooses. However, in the vast majority of cases originating in the medical society committees, no action goes to the Commission. There is considerable opposition among the society's membership to warning every doctor who appears before any committee for any reason of his rights to remain silent and to bring a lawyer. It is felt that this could destroy the medical society's ability, both state and local, to informally advise and assist physicians for what are usually relatively minor problems.

This situation is still under intense study. At the present time, however, the Commission and the Council of the state medical society agree that committee chairmen need not specifically advise physicians of their right to remain silent or to bring in a lawyer, unless the committee begins to find problems of major importance with that particular physician. At that point, the committee chairman is advised to stop the proceedings and advise the physician of his rights. If need be, the deliberations with the physician can be rescheduled for another time.

We are faced with a need to protect the physician's rights as he appears before the medical society's committees and the need to maintain the usually close peer relationship without threat of legal action that characterizes the various committee deliberations.

A second problem has to do with the investigation and report to the Commission by the medical society. Neither the state nor local county medical societies have funds specifically set aside for investigating purposes. Thus, these committees must do a great deal of voluntary, unpaid work in gathering information about physicians and this information must be put together in a report, with recommendations to the Commission. While the Commission has the right to gather further information, the original investigation sent to it by the medical society committee has great weight in helping the Commission to decide as to how it should proceed.

Third, there needs to be clear communication and understanding between the Commission and the various medical societies. Occasionally a medical society committee will refer a case to the Commission that should have been handled by the local committee completely. Such inappropriate referrals can consume a great deal of time. At other times, the Commission takes what seems to be an inordinate amount of time in reaching a decision on a case sent to it by a medical society committee. Lack of feedback results in great frustration on the part of the society's committee members who have spent often many hours in their own investigation of the problem.

Summary

Maryland does not have a "disabled doctor" law per se. Rather, the disabled physician is dealt with within the same administrative framework as other physicians having practice problems.

The system for dealing with physicians demonstrating unprofessional conduct, whether sick or not, is dependent upon close working relationships between the Commission on Medical Discipline and the state and local medical societies. While the Commission alone

is empowered to render a judgment against a doctor which can result in revocation, suspension, probation or reprimand, in every case a medical society committee must investigate the problem first and render a report to the Commission. This report is necessary to the Commission's decision as to whether to hold a formal hearing and the report carries a great deal of weight in the Commission's rendering a decision.

The Commission, composed entirely of physicians, has broad latitude, with 18 separate grounds for license revocation, suspension, or reprimand. It is a quasi-judicial body with the right to subpoena and put witnesses under oath. It also has the right to subpoena physicians to appear before local medical society committees. Under a new amendment to the Maryland Medical Practice Act, physicians can now be required to undergo mental and/or physical examination by the Commission.

The effect of this new law has been to greatly enhance the medical society's role in physician discipline. Where the problem has been referred to the medical society by the Commission, the society must gather information for the report. Where the original complaint comes to the medical society, then the society must decide whether it should handle the problem locally, using education, peer pressure, and/or the threat of going to the Commission, or whether it should actually refer the case directly to the Commission for further action. In the case of my own Committee on Drugs of the state medical society, we have convinced six elderly physicians to retire from practice rather than have to face the Commission for license revocation on the grounds of mental incompetence. In dealing with senile, alcoholic, drug-dependent or otherwise-ill physicians, the society's committees now have real leverage to get the doctor to accept treatment and/or to confine his practice.

The process of cooperation between Commission and medical society continues to evolve. A major problem now being worked on is the assurance that a physician appearing before a medical society committee will have his rights protected without creating a courtroom atmosphere at each committee meeting that might destroy the committee's effectiveness as a peer group helping, advising, and educating physicians.

No medical society could ask for such a law unless its membership is willing first to admit that we have serious problems with some of our associates and, second, that sometimes we will have to ask that a colleague be denied the right to practice medicine. Our statute, with all its problems, has provided organized medicine in Maryland with the opportunity to police itself and to meaningfully assure the public that only competent physicians may practice in the state.

RESOLUTION NO. 77-7

Not adopted. Referred to the Council.

Physician Discipline

WHEREAS, There is presently in the state of Kansas very little in the way of a mechanism for physician discipline except those mechanisms that exist within the hospital medical staffs and the efforts of Kansas State Board of Healing Arts; and

WHEREAS, The physicians of Kansas feel that a stronger mechanism needs to be established on a statewide basis outside the confines of the hospitals; and

WHEREAS, It would seem appropriate that this function is burdensome to the Board of Healing Arts in light of their other many duties; and

WHEREAS, Other states are now working toward solutions of this same situation, many with resulting positive mechanisms such as the state of Maryland, a description of which is attached and made a part of this resolution; therefore be it

Resolved, That the Kansas Medical Society will immediately undertake a study of possible solutions for the problem of physician discipline in the state of Kansas through its Legislative Committee and the Society's Legal Counsel. They are hereby charged with the responsibility of developing legislation for the establishment of a State Commission on Medical Discipline separate from the Board of Healing Arts but working in conjunction with them as to their duties, functions, and appeals of their decisions. This Commission should consist of physicians (MDs and DOs) who are selected from a list of physicians supplied by the Kansas Medical Society and the Kansas State Osteopathic Association, such selection being done by the Governor of Kansas. This Commission would be responsible for any corrective action pertaining to MDs or DOs whether the action were of an educational nature, a simple reprimand or more stringent disciplinary action such as probation, suspension, or revocation of licensure. The duties of the Commission would consist of investigation into any complaints concerning a licensed physician, and carrying out any action necessary, with the Board of Healing Arts serving as an appeal board, and be it further

Resolved, That this study and legislative proposal be referred to the Council for its study and that the Council will be responsible for informing the membership of the Kansas Medical Society of the legislative proposal and, once approved by the Council, will be prepared in proper form for introduction in the next Kansas Legislative Session—January 1978.

The Commission on Medical Discipline of Maryland

Until 1969, the Board of Medical Examiners of the state of Maryland had the responsibility for physicians' discipline as well as the responsibility for physicians' licensure, collection of fees, and maintaining a physicians' registry. The Board of Medical Examiners could revoke or suspend a physician's license or it could place him on probation for one of five reasons: (1) fraud in obtaining a medical license; (2) habitual drunkenness; (3) insanity; (4) abortion; and (5) conviction of a crime involving moral terpitude, unprofessional or dishonorable conduct. Any action by the BME was subject to appeal; during appeal, which could drag on for years, a physician could continue to practice. The BME had no subpoena power and no power to put witnesses under oath, with all the attendant sanctions of perjury. They thought that they could not revoke or suspend a physician's license to practice unless and until that physician was convicted of a crime. In the absense of such a conviction, rarely gained, the Board uniformly approached the matter as one in which other (but less effective) disciplinary actions could be taken.

The State Medical Society of Maryland debated over a period of two years over a new law for Maryland that would better deal with the poorly-practicing physician, whatever his problem. The recommendations were drafted into a proposed law and were introduced in the Maryland General Assembly in Spring 1969. These recommendations were accepted by the state legislators with few changes and they became law as of July 1, 1969. A State Commission on Medical Discipline was established which assumed the responsibilities for the disciplining of physicians. The responsibility that had resided in the Board of Medical Examiners was removed from that body.

Description of the Commission on Medical Discipline of Maryland

A. Consists of nine members, all physicians: president and chairman of the Council of the state medical society, two physicians appointed by the governor from a list submitted by the state medical society, two other physicians appointed by the Governor, and three physicians from the Board of Medical Examiners appointed by the Board.

B. Legal counsel is supplied by the Attorney General's office: one attorney presents the Commission's case at formal hearings and another advises the Commission as to legal matters.

C. Members are appointed for three years and receive no compensation other than reimbursement for actual expenses. They may be removed by the Secretary of Health and Mental Hygiene for neglect of duty, misconduct, malfeasance, or misfeasance in office.

D. Meetings are scheduled monthly, but more frequent sessions are often necessary.

E. There is a separation of function to avoid the possibility of "witch hunts." By law, any charge that becomes known to the Commission must be referred to the appropriate committee of the state medical society or to a local component medical society for investigation and a report rendered to the Commission within 90 days. In addition, the state medical society or local medical society may initiate action by virtue of information coming to its attention from its members or from any source, such cases to be handled in the same manner as though they had been referred to it by the Commission.

F. The medical society may request the Commission to issue a subpoena for a physician to appear with or without his records before the local committee. The medical society may also request that the physician undergo a physical or psychiatric examination. If the physician refuses such examination, this refusal constitutes *prima facie* evidence of incompetence to practice medicine.

G. The Commission has the power to reprimand the physician, place him on probation, revoke or suspend his license for any of 18 causes:

1. Fraudulent or deceptive procuring or use of a license;
2. Solicitation or advertising contrary to the Board of Medical Examiners' regulations;
3. Performance of an abortion outside a licensed hospital (which in view of recent Supreme Court decisions is probably unconstitutional);
4. Conviction of a crime involving moral turpitude;
5. Abandonment of a patient;
6. Addiction to narcotics, habitual drunkenness, or rendering professional services to a patient if the physician is intoxicated or under the influence of drugs;
7. Promotion by a physician of the sale of drugs, devices, appliances, or goods provided for a patient in such a manner as to exploit the patient for financial gain of the physician;
8. Immoral conduct of a physician in his practice as a physician;
9. Willful making and filing false reports or records in his practice as a physician;
10. Willful omission to file or record or willfully impeding or obstructing a filing or recording or inducing another person to omit to file or record medical reports required by law;
11. Failure to furnish details of a patient's medical

record to succeeding physicians or hospital, upon proper request;

12. Solicitation of professional patronage by agents or persons or profiting from the acts of those representing themselves to be agents of the licensed physician;
13. Division of fees or agreeing to split or divide the fees received for professional services with any person for bringing to or referring a patient;

13-1. Agreeing with clinical or bioanalytical laboratories to make payments to such laboratories for individual tests or test series for patients, unless the physician discloses on the bills to patients or third-party payers the name of such laboratory, the amount or amounts paid to such laboratories for individual tests or test series, and the amount of his procurement or processing charge, if any, for each specimen taken;

14. Willful misrepresentation in treatment;
15. Practicing medicine with an unlicensed physician, except in an accredited preceptorship or residency training program, or aiding or abetting such unlicensed persons in the practice of medicine;
16. Gross and willful and continued overcharging for professional services, including filing of false statements for collection of fees for which services are not rendered;
17. Offering, undertaking, or agreeing to cure or treat disease by secret method, procedure, treatment, or medicine;
18. Professional, physical, or mental incompetency.

The system for dealing with physicians demonstrating unprofessional conduct, whether sick or not, is dependent upon close working relationships between the Commission on Medical Discipline and the state and local medical societies. While the Commission alone is empowered to render a judgment against a doctor which can result in revocation, suspension, probation or reprimand, in every case a medical society committee must investigate the problem first and render a report to the Commission. This report is necessary to the Commission's decision as to whether to hold a formal hearing, and the report carries a great deal of weight in the Commission's rendering a decision.

The Commission sees its role as one of protection, not punishment. It attempts to protect all citizens of the state, including physicians. Where possible, the Commission secures treatment for the sick doctor and attempts to rehabilitate him. The professionally-incompetent doctor is referred for further educational programs and, where necessary, his practice is supervised. The doctor who could be tempted is placed in institutional practice. It is not necessary to revoke numerous licenses to set examples; it is the threat that makes some comply and others retire. Only in a few cases does it become necessary for the Commission to actually revoke or suspend licenses. Actually, most cases do not come to the Commission's attention, but are settled on the local level.

RESOLUTION NO. 77-8

Cigarette Smoking

WHEREAS, Statistics for the ten-year period, following the release of a report of the Surgeon General of the United States Public Health Service in 1964, indicate the total number of deaths in this country from just two diseases (lung cancer and emphysema) amounted to more than three-quarters of a million people; and

WHEREAS, Cigarette smoking is the single, most preventable cause of lung cancer and emphysema, and that the evidence linking cigarette smoking to disease and death is now overwhelming; and

WHEREAS, Cigarette smoking is again on the increase, particularly among teenage girls and young women; and

WHEREAS, We as physicians have a public responsibility to serve as exemplars and educators; therefore be it

Resolved, That we, as exemplars, eliminate cigarette smoking as a personal habit; and be it further

Resolved, That we acknowledge the role of cigarette smoking as a public health problem affecting the smoker, the non-smokers and the young; and be it further

Resolved, That we use our influence to eliminate cigarette smoking from all medical and health-related facilities, *i.e.,* hospitals, clinics, private offices, medical schools, medical meeting places, etc.; and be it further

Resolved, That we will actively promote smoking cessation among our patients by demonstrating our concern for their well-being and reinforcing their efforts to stop cigarette smoking by counseling, by provision of educational materials, by eliminating smoking from all medical facilities, by instructing all personnel to refrain from smoking and by serving as exemplars; and be it further

Resolved, That we will use our influence with other health-related professionals to gain their cooperation in anti-smoking efforts.

RESOLUTION NO. 77-9

Diagnosis and Treatment of Malignancies

Resolved, That the Kansas Medical Society continue

to inform the public of the danger of delay in the diagnosis and treatment of malignancies by methods not generally recognized by the medical profession as beneficial and effective; and be it further

Resolved, That the Kansas Medical Society inform the public that the safety and efficacy of laetrile for the treatment or palliation of malignancies is unproven and that the use of laetrile in such cases exploits the victims of malignancies and their families by preying upon the emotions of the hopelessly ill, in some cases for the profit of the unscrupulous.

RESOLUTION NO. 77-10

Health Resources

WHEREAS, The determination of the medical needs of the State of Kansas should be done by those having first-hand knowledge of their needs; and

WHEREAS, The Kansas Medical Society should have a resource directory of medical personnel and facilities and their projection into the future; and

WHEREAS, The Kansas Medical Society should be able to provide such information to government and citizen organizations; therefore be it

Resolved, That the Commission on Health Services of the Kansas Medical Society consult with other appropriate agencies and organizations, in determining the criteria for establishing the need for physicians and paramedical personnel in the State of Kansas; and be it further

Resolved, That the consultation include the criteria for need for new sophisticated, medical equipment in the State of Kansas.

RESOLUTION NO. 77-11

Not adopted. Tabled.

Reapportionment of House of Delegates

WHEREAS, The present composition of the House of Delegates provides disproportionate representation to the several disciplines of this society; and

WHEREAS, The concept of "one man, one vote" is almost universally accepted in parliamentary bodies; therefore be it

Resolved, That the By-Laws be amended as follows:

#5.1 Composition

The House of Delegates shall be composed of delegates selected by the component societies, by the elected councilors and in their absence, their alternates, by the past presidents, and by the elected officers of this Society. Members of the Society may attend plenary sessions and others may attend upon invitation of the Speaker.

#5.21 Component Societies

Each component society, having made its annual report and paid its assessments as provided in this Constitution and By-Laws, shall elect one (1) delegate and one (1) alternate to the House of Delegates for each twenty (20) members and fraction thereof. Each component society shall be entitled to at least one (1) delegate and one (1) alternate.

#5.22 (Delete)

#5.23 Delete the Words, "and specialty section," in line 1.

RESOLUTION NO. 77-12

Charges for Laboratory Services

WHEREAS, The Kansas Legislature during the 1977 session considered HB-2219, which would limit charges for laboratory services made by medical care facilities and persons licensed to practice the Healing Arts; and

WHEREAS, The medical profession concurs with the concept of health care cost containment but opposes isolated statutory attempts to accomplish same; therefore be it

Resolved, That the Council of the Kansas Medical Society consider this proposed legislation in detail and submit a policy statement.

RESOLUTION NO. 77-13

Use of Schedule II Drugs

WHEREAS, Schedule II drugs, such as amphetamines and methylphenidate, have a useful place in the medical armamentarium; and

WHEREAS, There is known overutilization and abuse of some Schedule II drugs by some patients and some physicians; and

WHEREAS, In an effort to curb such abuses, the Drug Enforcement Administration is currently contemplating the removal of amphetamines and possibly other Schedule II drugs from the market; and

WHEREAS, The medical profession deplores the overutilization or abuse of any drug; therefore be it

Resolved, That the Kansas Medical Society is of the opinion that Schedule II drugs should remain available for acceptable medical use; and be it further

Resolved, That the Kansas Medical Society recommends that the use of these drugs be used with extreme care and only in those instances where their medical use

can be justified without question; and be it further

Resolved, That the Kansas Medical Society and all local component societies take the lead and cooperate with local law enforcement agencies, professional pharmacies associations, Kansas State Board of Pharmacy, Kansas State Board of Healing Arts, and the Drug Enforcement Administration in a combined effort to detect and eliminate abuse and overutilization of these types of drugs.

RESOLUTION NO. 77-14

PSRO Repeal

WHEREAS, The PSRO legislation was introduced and enacted primarily as a "cost controls" mechanism; and

WHEREAS, On February 12, 1977, as reported in *Medical Economics* by Dr. Charles McSherry, head of the UR Committee at New York Hospital-Cornell Medical Center—that in reviewing 9,500 charts, the average cost per one case found of overutilization was $34,267, thereby revealing its counterresults; and

WHEREAS, PSRO regulations have already inflicted irrevocable, destructive, damaging results on hospital board members-doctors-patient relationships; therefore be it

Resolved, That the Kansas Medical Society in regular session assembled in Wichita, Kansas this 4th Day of May, 1977, again petitions Congress to repeal PSRO; and be it further

Resolved, That the Kansas Medical Society send a copy of this resolution to each Kansas congressman and both senators from Kansas, as well as presidents of each state medical association, urging them to do likewise.

RESOLUTION NO. 77-15

Economics of Medicine

WHEREAS, The rising costs of medical and health care are of increasing concern to the American public; and

WHEREAS, Medical training programs do not reflect sufficient emphasis in the area of cost-conscious medical practice; therefore be it

Resolved, That all medical training programs in the state of Kansas be urged to emphasize a greater awareness in the medical student, residency, and preceptorship training programs of the importance of practicing cost-conscious medicine; and be it further

Resolved, That copies of this resolution be sent to Chancellor Archie Dykes, Dr. Robert Kugel, Dr. D. Cramer Reed, University of Kansas School of Medicine residency program directors, and other free-standing residency training programs and preceptors.

RESOLUTION NO. 77-16

Not adopted. Referred to the Council.

Federal Regionalism

WHEREAS, The United States recently has been divided into ten federal regions by Executive Order 11647 —Federal Regional Councils, entered in the *Federal Register* by the President on February 12, 1972; and

WHEREAS, The Federal Regional System will assume the power and authority which traditionally has belonged to municipal and county governments and even to sovereign states, and will bypass the traditional and constitutional governmental bodies; and

WHEREAS, Across the nation, this new form of government is being created under different names such as Mid-America Regional Council, River Basin Compacts, Metropolitan Regions, County Consolidated Charters, and Federal Region—sub-state regions, all of which constitute "metro" or "regional" government; and

WHEREAS, The direct application of these principles through "MASHA" to the general and private practice of medicine is of doubtful value and is oppressive; and

WHEREAS, Many respected authorities of government and constitutional law declare that the purpose of regional government by empowered political appointees is to eliminate cities, counties, and states and their elected officials, and will usurp the rights and freedoms of individual citizens guaranteed by the Constitution of the State of Kansas and of the United States of America and states' rights would thereby be abrogated; and

WHEREAS, Senators and representatives of the Kansas Legislature have taken an oath to uphold the Constitution of Kansas and of the United States and, therefore, must hold as sacred trust their responsibility to preserve and protect the freedom and liberties of citizens of Kansas; therefore be it

Resolved, That the House of Delegates of the Kansas Medical Society in regular session assembled in Wichita, Kansas this 4th day of May, 1977 urges the Governor of Kansas and the Kansas Legislature to establish a special joint committee consisting of four senators and

four representatives as members of a standing committee and that they consider the following points:

1. That, in order that an open and objective investigation may be performed, the committee chairman shall not be someone who has already committed himself to the advancement of regional government;

2. That said committee shall thoroughly investigate regional government in all its aspects and under whatever name or form, including but not limited to its origins, developments, functions, purposes and goals, and shall take testimony, holding public hearings, invite expert and interested citizen witnesses, and take whatever action is necessary to carry out this joint resolution (Senate and House);

3. That said committee shall report its findings and recommendations, especially as to the constitutionality of regional government and its effects upon the citizens of Kansas by July 4, 1978; and, in addition, shall report its findings and recommendations together with any proposed legislation deemed necessary to protect and preserve the independent statehood of Kansas and the rights of Kansas citizens;

4. That the Kansas Legislature make all of their authority, resources, and influence available without reservation to preserve, protect, and defend Article X, the Bill of Rights of the Constitution of the United States which declares:

"The powers not delegated to the United States by the Constitution, nor prohibited by it to the states, are *reserved to the states* respectively, or *to the people.*" (Emphasis added.)

RESOLUTION NO. 77-17

Saccharine

WHEREAS, The experimental evidence of the carcinogenic properties of saccharine is apparently based upon one unconfirmed experiment with rats using a dosage 800 times that of the average daily human consumption; and

WHEREAS, The Congress and the FDA have been flooded with communications from the public pointing out that the alleged dangers of saccharine as a cancer producing agent are outweighed by the many commendable uses in weight control, diabetes and obesity; therefore be it

Resolved, That the Kansas Medical Society urges Congress to modify the Delaney Amendment in order to permit the use of saccharine; and be it further

Resolved, That a copy of this resolution be sent to the Kansas Congressional delegation.

RESOLUTION NO. 77-18

Not adopted.

RESOLUTION NO. 77-19

Not adopted. Referred to the Council.

Legal Defense Fund

WHEREAS, A Medico-Legal Foundation exists for the purpose of discouraging frivolous and unwarranted medical malpractice lawsuits and for prosecuting legal malpractice actions; and

WHEREAS, Attack and harassment of physicians' constitutional freedoms ("civil rights") continue by both the federal and state bureaucracy; and

WHEREAS, Nothing exists for the protection of civil rights of physicians in the state of Kansas; therefore be it

Resolved, That the House of Delegates of the Kansas Medical Society instruct the Executive Committee and Council of the Kansas Medical Society to provide a legal defense fund to be used to protect the constitutional freedoms ("civil rights") of physicians in Kansas.

RESOLUTION NO. 77-20

Not adopted.

RESOLUTION NO. 77-21

Oliver E. Ebel

WHEREAS, Oliver E. Ebel was Executive Director of the Kansas Medical Society for 31 years; and

WHEREAS, Oliver Ebel served and represented Kansas medicine with the highest distinction; and

WHEREAS, Oliver Ebel was respected and without peer in his profession, and his wise counsel will be sorely missed; therefore be it

Resolved, That this House of Delegates express its sorrow and sympathy to the Ebel family over the loss of Oliver.

RESOLUTION NO. 77-22

Not adopted.

RESOLUTION NO. 77-23

Gratitude to MSSC and Auxiliary

WHEREAS, We have enjoyed the facilities, the educational events, sports events, social activities and the hospitality of our hosts of Sedgwick County; and

WHEREAS, Topeka has been selected as the location of the next annual meeting of the Kansas Medical Society; therefore be it

Resolved, That we wish to thank Sedgwick County members and the Auxiliary for their efforts; and be it further

Resolved. That members of the Shawnee County Medical Society and their Auxiliary cordially invite the members of the Kansas Medical Society and their families to join us May 7 through May 10, 1978, for the 119th Annual Session.

RESOLUTION NO. 77-24

Reno County Medical Society

WHEREAS, Hutchinson, Kansas will soon have new hotel and convention facilities completed; and

WHEREAS, Hutchinson, Kansas was formerly included in the list of cities for Annual Sessions of the Kansas Medical Society; and

WHEREAS, The Reno County Medical Society has expressed an interest in hosting the Annual Session again; therefore be it

Resolved, That this House of Delegates instruct the Council to study the possibility of again holding the Annual Session of the Kansas Medical Society in Hutchinson, Kansas and to act accordingly.

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Council Meeting

Report of Meeting Held May 4, 1977

A meeting of the Council was held at 12:30 PM on Wednesday, May 4, 1977, immediately following the adjournment of the Second House of Delegates session at the Broadview Hotel, Wichita. Dr. John D. Huff, President, called the meeting to order.

Present were the following Officers and Councilors: Drs. Philip J. Antrim, Clair C. Conard, Jack R. Cooper, Herbert Fransen, Philip A. Godwin, Donald D. Goering, L. William Halling, Robert P. Hudson, John D. Huff, Robert W. Hughes, Warren E. Meyer, Robert F. Moore, Richard H. O'Donnell, Ivan E. Rhodes, Alex Scott, Floyd L. Smith, Millard C. Spencer, Max E. Teare, Roger D. Warren, Kermit G. Wedel, Emerson Yoder, John O. Yulich.

Also present were Drs. John N. Blank, Kenneth L. Lohmeyer, and Newton C. Smith.

Also present were Mr. Gary Caruthers, Mrs. Val Braun, and Mr. Jerry Slaughter.

Dr. Huff introduced the newly elected Officers and Councilors.

The Council nominated Drs. George D. Marshall, Colby, and Clair J. Cavanaugh, Great Bend, to another term on the Kansas Healing Arts Board.

A contribution of $500 to Kansas Association for School Health was approved.

The Council re-appointed John A. Segerson, M.D., Topeka, to another three-year term on the Editorial Board, and elected M. Martin Halley, M.D., Topeka, to his first term on the Board.

David E. Gray, M.D. was unanimously reappointed as Editor of THE JOURNAL and Chairman of the Editorial Board.

In a response to Resolution No. 77-24, inviting the Kansas Medical Society to hold its Annual Session in Hutchinson, the Council voted to plan the 1979 Annual Meeting in Hutchinson.

The following appointments were made to the KaMPAC Board of Directors: District 3: George M. Osgood, M.D., Prairie Village and Mrs. John O. Yulich, Kansas City, Kansas. District 4: Ronald B. Davis, M.D., Wichita and Mrs. H. Ivor Jones, Prairie Village.

The Nominating Committee 1978 will consist of the following: Drs. Emerson Yoder, Chairman; F. Calvin Bigler, H. Thomas Gray, John W. Travis, and John O. Yulich.

The Council reiterated its decision that the professional liability assessment be considered mandatory, and a part of the annual dues.

A request by Kansas Chapter, American College of Emergency Room Physicians, to be granted status of a specialty section of the Kansas Medical Society was approved and will be submitted to the next KMS House of Delegates.

The Workman's Compensation Insurance Program was endorsed.

The Council next considered items which were referred to it by the House of Delegates, and took the following action.

Resolution No. 77-1, *Verification of CME:* That all KMS members be required to utilize the present mechanism for verification of CME, and that they be so notified.

Resolution No. 77-7, *Physician Discipline:* Referred to the Commission for Health Services for further study.

Resolution No. 77-12, *Charges for Laboratory Services:* Referred to the Commission for Sociology and Economics for development of a policy statement concerning charges for laboratory services.

Resolution No. 17-16, *Federal Regionalism:* To be further reviewed at the September meeting of the Council.

Dr. Huff reported that Council meetings will be called at his discretion. The Executive Committee will continue meeting monthly if the business so warrants. He will ask the Commissions to function according to bylaws, and announced the following appointments of commission chairmen:

Medical and Specialty Societies—Richard L. Brownrigg, M.D., Dodge City;

Medical Education—Lew W. Purinton, M.D., Wichita;

Society Organization—John O. Yulich, M.D., Kansas City, Kansas.

Mr. Slaughter reported that physicians in the state had received an offensive letter from the Department of Social and Rehabilitation Services concerning a provider agreement form. Mr. Slaughter was told that the form was required by the federal government, and he was given the assurances that only those financial records would be open to public inspection which concern the Medicaid patients.

The Council agreed that the next meeting of this body should be held at the newly completed Holiday Inn facility in Hutchinson, in September.

There being no further business, the meeting was adjourned at 2:00 PM.

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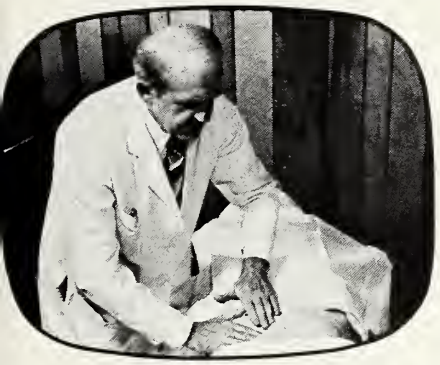

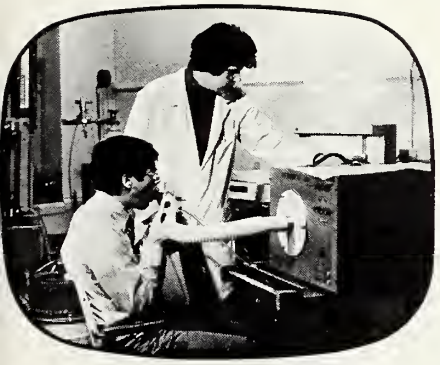

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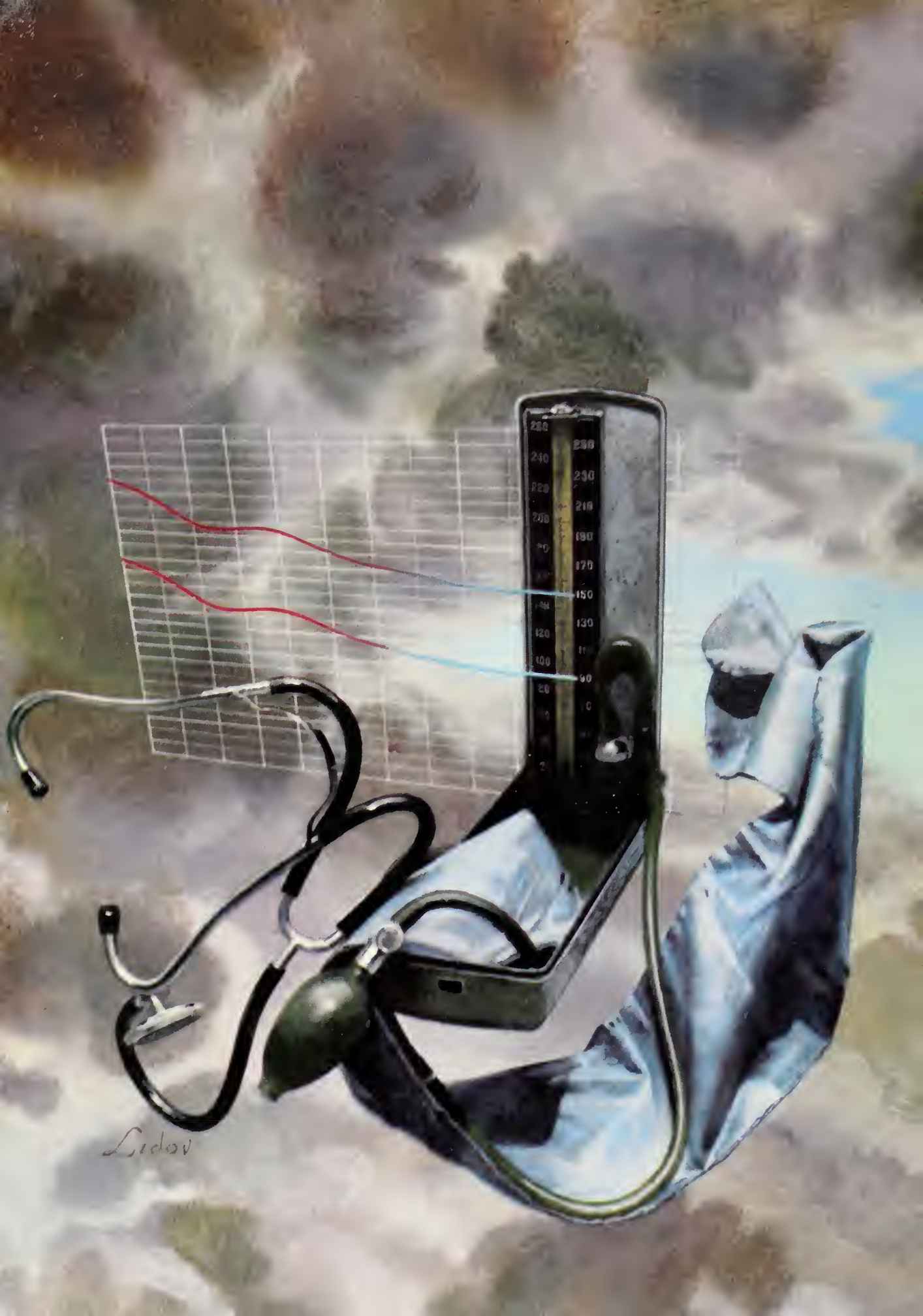
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References:

1. Dornfeld L, Kane R: Metolazone in essential hypertension. The long-term clinical efficacy of a new diuretic. *Curr Ther Res* **18:** 527-533, 1975.
2. Data on file, Medical Department, Pennwalt Prescription Products.

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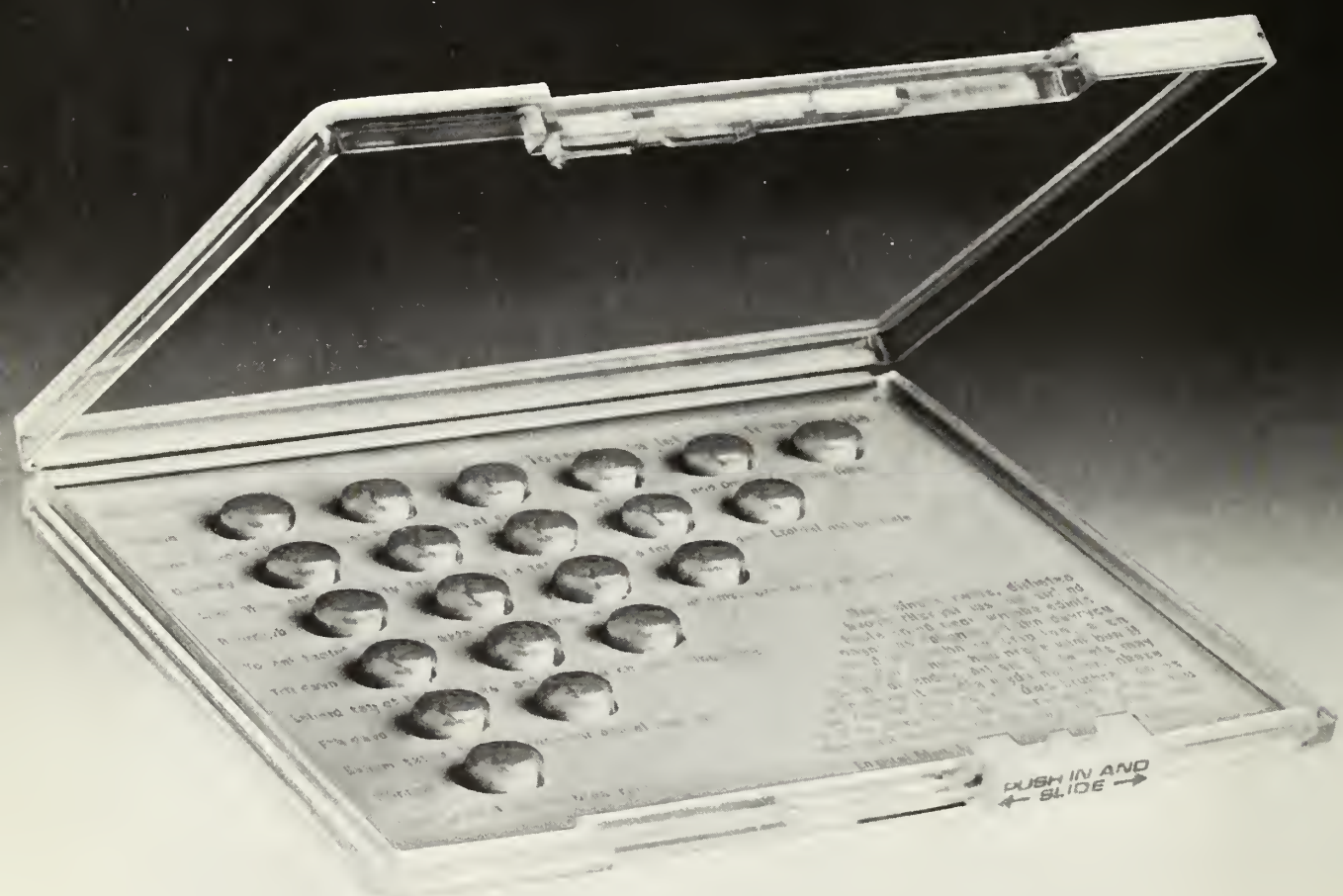

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Pediatric Hypercholesterolemic	0.05 mg./kg. body weight	0.05 mg./kg.	0.1 mg./kg. body weight	4.0 mg.
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Description

CHOLOXIN (sodium dextrothyroxine) is the sodium salt of the dextrorotatory isomer of thyroxine. It is chemically described as D-3,5,3′,5′-tetraiodothyronine sodium salt.

Actions

The predominant effect of CHOLOXIN (sodium dextrothyroxine) is the reduction of serum cholesterol levels in hyperlipidemic patients. Beta lipoprotein and triglyceride fractions may also be reduced from previously elevated levels.

Most of the available evidence indicates that CHOLOXIN (sodium dextrothyroxine) stimulates the liver to increase catabolism and excretion of cholesterol and its degradation products via the biliary route into the feces. Cholesterol synthesis is not inhibited and abnormal metabolic end-products do not accumulate in the blood.

Indications

This is not an innocuous drug. Strict attention should be paid to the indications and contraindications.

CHOLOXIN (sodium dextrothyroxine) is an antilipidemic agent used as an adjunct to diet and other measures for the reduction of elevated serum cholesterol (low density lipoproteins) in euthyroid patients with no known evidence of organic heart disease.

The drug is also indicated in the treatment of hypothyroidism in patients with cardiac disease who cannot tolerate other types of thyroid medication.

Before prescribing, note the following: Results from a randomized clinical study have indicated a possible adverse effect when CHOLOXIN (sodium dextrothyroxine) is administered to a patient receiving a digitalis preparation. There may be an additive effect. This additive effect may possibly stimulate the myocardium excessively, in patients with significant myocardial impairment. CHOLOXIN (sodium dextrothyroxine) dosage should not exceed 4 mg per day when the patient is receiving a digitalis preparation concomitantly. Careful monitoring of the total effect of both drugs is important.

It has not been established whether the drug-induced lowering of serum cholesterol or lipid levels has a detrimental, beneficial, or no effect on the morbidity or mortality due to atherosclerosis or coronary heart disease. Several years will be required before current investigations will yield an answer to this question.

Contraindications

The administration of CHOLOXIN (sodium dextrothyroxine) to euthyroid patients with one or more of the following conditions is contraindicated:

1. Known organic heart disease, including angina pectoris; history of myocardial infarction; cardiac arrhythmia or tachycardia, either active or in patients with demonstrated propensity for arrhythmias; rheumatic heart disease; history of congestive heart failure; and decompensated or borderline compensated cardiac status.
2. Hypertensive states (other than mild, labile systolic hypertension).
3. Advanced liver or kidney disease.
4. Pregnancy.
5. Nursing mothers.
6. History of iodism.

Warnings

CHOLOXIN (sodium dextrothyroxine) may potentiate the effects of anticoagulants on prothrombin time. Reductions of anticoagulant dosage by as much as 30% have been required in some patients. Consequently, the dosage of anticoagulants should be reduced by one-third upon initiation of CHOLOXIN therapy and the dosage subsequently readjusted on the basis of prothrombin time. The prothrombin time of patients receiving anticoagulant therapy concomitantly with CHOLOXIN therapy should be observed as frequently as necessary, but at least weekly, during the first few weeks of treatment.

In the surgical patient, it is wise to consider withdrawal of the drug two weeks prior to surgery if the use of anticoagulants during surgery is contemplated.

When CHOLOXIN (sodium dextrothyroxine) is used as thyroid replacement therapy in hypothyroid patients with concomitant coronary artery disease (especially those with a history of angina pectoris or myocardial infarction) or other cardiac disease, treatment should be initiated with care. Special consideration of the dosage schedule of CHOLOXIN (sodium dextrothyroxine) is required. This drug may increase the oxygen requirements of the myocardium, especially at high dosage levels. Treated subjects with coronary artery disease must be seen at frequent intervals. If aggravation of angina or increased myocardial ischemia, cardiac failure, or clinically significant arrhythmia develops during the treatment of hypothyroid patients, the dosage should be reduced or the drug discontinued.

Special consideration must be given to the dosage of other thyroid medications used concomitantly with CHOLOXIN (sodium dextrothyroxine). As with all thyroactive drugs, hypothyroid patients are more sensitive to a given dose of CHOLOXIN (sodium dextrothyroxine) than euthyroid patients.

Epinephrine injection in patients with coronary artery disease may precipitate an episode of coronary insufficiency. This condition may be enhanced in patients receiving thyroid analogues. These phenomena should be kept in mind when catecholamine injections are required in sodium dextrothyroxine-treated patients with coronary artery disease.

Since the possibility of precipitating cardiac arrhythmias during surgery may be greater in patients treated with thyroid hormones, it may be wise to discontinue CHOLOXIN (sodium dextrothyroxine) in euthyroid patients at least two weeks prior to an elective operation. During emergency surgery in euthyroid patients, and in surgery in hypothyroid patients in whom it may not be advisable or possible to withdraw therapy, the patients should be carefully observed.

There are reports that sodium dextrothyroxine in diabetic patients is capable of increasing blood sugar levels with a resultant increase in requirements of insulin or oral hypoglycemic agents. Special attention should be paid to parameters necessary for good control of the diabetic state in dextrothyroxine-treated subjects and to dosage requirements of insulin or other antidiabetic drugs. If sodium dextrothyroxine is later withdrawn from patients who had required an increase of insulin (or oral hypoglycemic agents) dosage during its administration, the dosage of antidiabetic drugs should be reduced and adjusted to maintain good control of the diabetic state.

When either or both impaired liver or kidney function are present, the advantages of CHOLOXIN (sodium dextrothyroxine) therapy must be weighed against the possibility of deleterious results.

Usage in Women of Childbearing Age

Women of childbearing age with familial hypercholesterolemia or hyperlipemia should not be deprived of the use of this drug; it can be given to those patients exercising strict birth control procedures. Since pregnancy may occur despite the use of birth control procedures, administration of CHOLOXIN (sodium dextrothyroxine) to women of this age group should be undertaken only after weighing the possible risk to the fetus against the possible benefits to the mother. Teratogenic studies in two animal species have resulted in no abnormalities in the offspring.

Precautions

It is expected that patients on dextrothyroxine therapy will show greatly increased serum protein-bound-iodine levels. These increased serum PBI values are evidence of absorption and transport of the drug, and should NOT be interpreted as evidence of hypermetabolism; similarly, they may not be used for titrating the effective dose of CHOLOXIN (sodium dextrothyroxine). PBI values in the range of 10 to 25 mcg% in treated patients are common.

If signs or symptoms of iodism develop during CHOLOXIN (sodium dextrothyroxine) therapy, the drug should be discontinued.

A few children with familial hypercholesterolemia have been treated with CHOLOXIN for periods of one year or longer with no adverse effects on growth. However, it is recommended that the drug be continued in patients in this age group only if a significant serum cholesterol-lowering effect is observed.

Adverse Reactions

The side effects attributed to dextrothyroxine therapy are, for the most part, due to increased metabolism, and may be minimized by following the recommended dosage schedule. Adverse effects are least commonly seen in euthyroid patients with no signs or symptoms of organic heart disease; the incidence of adverse effects is increased in hypothyroid patients, and is highest in those patients with organic heart disease superimposed on the hypothyroid state.

In the absence of known organic heart disease, some cardiac changes may be precipitated during sodium dextrothyroxine therapy. In addition to angina pectoris, arrhythmia consisting of extrasystoles, ectopic beats, or supraventricular tachycardia, ECG evidence of ischemic myocardial changes and increase in heart size have been observed. Myocardial infarctions, both fatal and non-fatal, have occurred, but these are not unexpected in untreated patients in the age groups studied. It is not known whether any of these infarcts were drug related.

Changes in clinical status that may be related to the metabolic action of the drug include the development of insomnia, nervousness, palpitations, tremors, loss of weight, lid lag, sweating, flushing, hyperthermia, hair loss, diuresis, and menstrual irregularities. Gastrointestinal complaints during therapy have included dyspepsia, nausea and vomiting, constipation, diarrhea, and decrease in appetite.

Other side effects reported to be associated with CHOLOXIN (sodium dextrothyroxine) therapy include the development of headache, changes in libido (increase or decrease), hoarseness, tinnitus, dizziness, peripheral edema, malaise, tiredness, visual disturbances, psychic changes, paresthesia, muscle pain, and various bizarre subjective complaints. Skin rashes, including a few which appeared to be due to iodism, and itching have been attributed to dextrothyroxine by some investigators. Gallstones have been discovered in occasional dextrothyroxine-treated patients and cholestatic jaundice has occurred in one patient, although its relationship to CHOLOXIN therapy was not established.

In several instances, the previously existing conditions of the patient appeared to continue or progress during the administration of CHOLOXIN (sodium dextrothyroxine); a worsening of peripheral vascular disease, sensorium, exophthalmos, and retinopathy have been reported.

CHOLOXIN (sodium dextrothyroxine) potentiates the effects of anticoagulants, such as warfarin or Dicumarol, on prothrombin time, thus indicating a decrease in the dosage requirements of the anticoagulants. On the other hand, dosage requirements of antidiabetic drugs have been reported to be increased during dextrothyroxine therapy (see WARNINGS section).

Dosage and Administration

For **adult** euthyroid hypercholesterolemic patients, the recommended maintenance dose of CHOLOXIN (sodium dextrothyroxine) is 4 to 8 mg per day. The initial daily dose should be 1 to 2 mg to be increased in 1 to 2 mg increments at intervals of not less than one month to a maximum level of 4 to 8 mg daily, if that dosage level is indicated to effect the desired lowering of serum cholesterol.

When used as partial or complete substitution therapy for levothyroxine in hypothyroid patients with cardiac disease who cannot tolerate other types of thyroid medication, the initial daily dose should be 1 mg to be increased in 1 mg increments at intervals of not less than one month to a maximum level of 4 to 8 mg daily, preferably the lower dosage. The maximum in patients receiving digitalis therapy is 4 mg.

For **pediatric** hypercholesterolemic patients, the recommended maintenance dose of CHOLOXIN (sodium dextrothyroxine) is approximately 0.1 mg (100 mcg) per kilogram. The initial daily dosage should be approximately 0.05 mg (50 mcg) per kilogram to be increased in up to 0.05 mg (50 mcg) per kilogram increments at monthly intervals. The recommended maximal dose is 4 mg daily, if that dosage is indicated to effect the desired lowering of serum cholesterol.

If new signs or symptoms of cardiac disease develop during the treatment period, the drug should be withdrawn.

How Supplied

CHOLOXIN (sodium dextrothyroxine) is supplied in prescription packages of scored 1, 2, 4, and 6 mg tablets.

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THE Journal Kansas Medical Society

JULY
1977

VOL. LXXVIII
NO. VII

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Valium (diazepam) is a benzodiazepine with a character all its own. Pharmacologically, it has been described as more potent mg-per-mg than other available anxiolytic benzodiazepines. Pharmacokinetically, only Valium provides active *diazepam* as well as the active metabolites 3-hydroxydiazepam, desmethyldiazepam and oxazepam.

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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome; convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

***Usage in Pregnancy:* Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported, should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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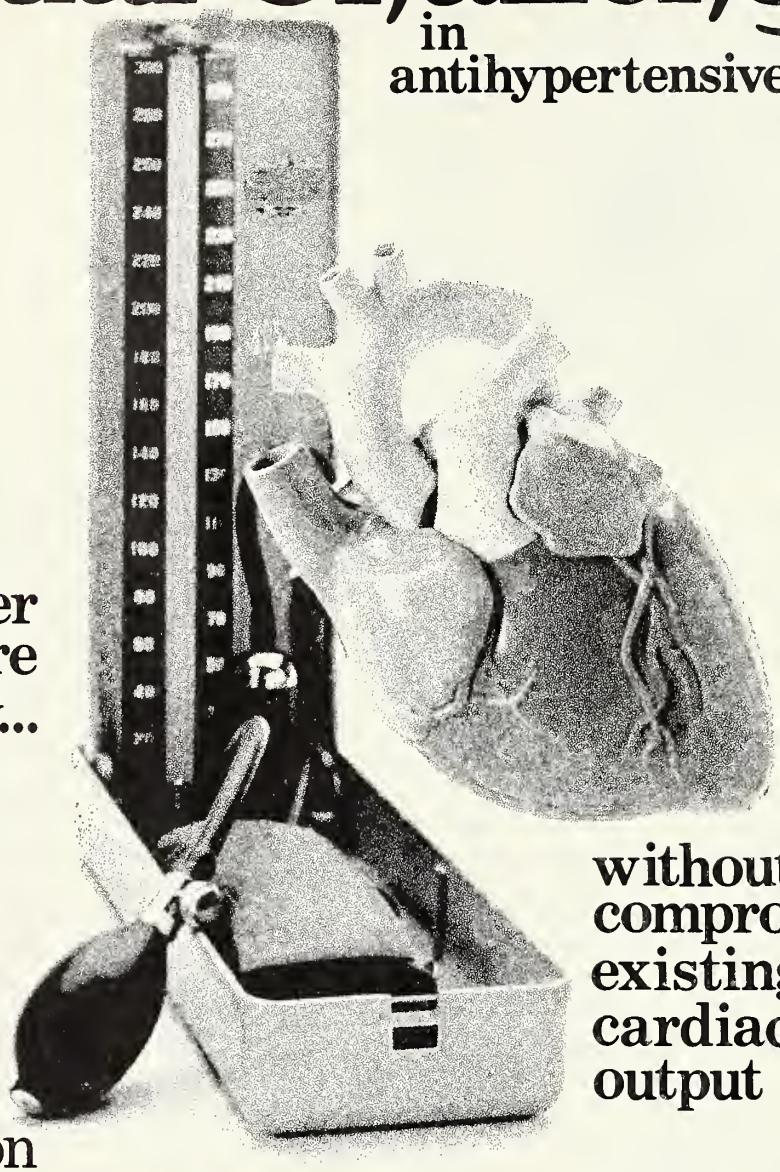
A Dual Challenge in antihypertensive therapy



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It is important to recognize that a positive Coombs test, hemolytic anemia, and liver disorders may occur with methyldopa therapy. The rare occurrences of hemolytic anemia or liver disorders could lead to potentially fatal complications unless properly recognized and managed. For more details see the brief summary of prescribing information.

For a brief summary of prescribing information, please see following page.

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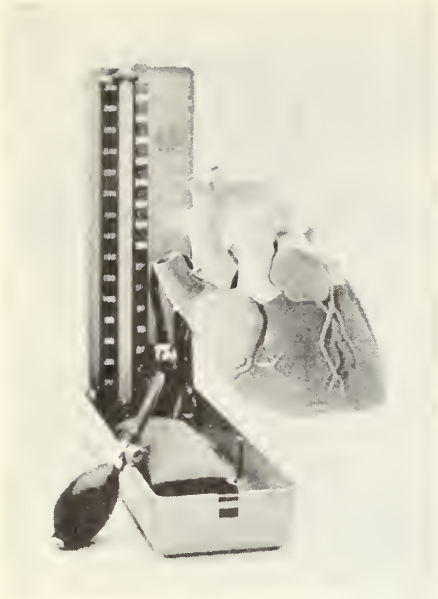

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Warnings: It is important to recognize that a positive Coombs test, hemolytic anemia, and liver disorders may occur with methyldopa therapy. The rare occurrences of hemolytic anemia or liver disorders could lead to potentially fatal complications unless properly recognized and managed. Read this section carefully to understand these reactions.

With prolonged methyldopa therapy, 10% to 20% of patients develop a positive direct Coombs test, usually between 6 and 12 months of therapy. Lowest incidence is at daily dosage of 1 g or less. This on rare occasions may be associated with hemolytic anemia, which could lead to potentially fatal complications. One cannot predict which patients with a positive direct Coombs test may develop hemolytic anemia. Prior existence or development of a positive direct Coombs test is not in itself a contraindication to use of methyldopa. If a positive Coombs test develops during methyldopa therapy, determine whether hemolytic anemia exists and whether the positive Coombs test may be a problem. For example, in addition to a positive direct Coombs test there is less often a positive indirect Coombs test which may interfere with cross matching of blood.

At the start of methyldopa therapy, it is desirable to do a blood count (hematocrit, hemoglobin, or red cell count) for a baseline or to establish whether there is anemia. Periodic blood counts should be done during therapy to detect hemolytic anemia. It may be useful to do a direct Coombs test before therapy and at 6 and 12 months after the start of therapy. If Coombs-positive hemolytic anemia occurs, the cause may be methyldopa and the drug should be discontinued. Usually the anemia remits promptly. If not, corticosteroids may be given and other causes of anemia should be considered. If the hemolytic anemia is related to methyldopa, the drug should not be reinstituted. When methyldopa causes Coombs positivity alone or with hemolytic anemia, the red cell is usually coated with gamma globulin of the IgG (gamma G) class only. The positive Coombs test may not revert to normal until weeks to months after methyldopa is stopped.

Should the need for transfusion arise in a patient receiving methyldopa, both a direct and an indirect Coombs test should be performed on his blood. In the absence of hemolytic anemia, usually only the direct Coombs test will be positive. A positive direct Coombs test alone will not interfere with typing or cross matching. If the indirect Coombs test is also positive, problems may arise in the major cross match and the assistance of a hematologist or transfusion expert will be needed.

Fever has occurred within first 3 weeks of therapy, sometimes with eosinophilia or abnormalities in liver function tests, such as serum alkaline phosphatase, serum transaminases (SGOT, SGPT), bilirubin, cephalin cholesterol flocculation, prothrombin time, and bromsulphalein retention. Jaundice, with or without fever, may occur, with onset usually in the first 2 to 3 months of therapy. In some patients the findings are consistent with those of cholestasis. Rarely fatal hepatic necrosis has been reported. These hepatic changes may represent hypersensitivity reactions; periodic determination of hepatic function should be done particularly during the first 6 to 12 weeks of therapy or whenever an unexplained fever occurs. If fever and abnormalities in liver function tests or jaundice appear, stop therapy with methyldopa. If caused by methyldopa, the temperature and abnormalities in liver function characteristically have reverted to normal when the drug was discontinued. Methyldopa should not be reinstituted in such patients.

Rarely, a reversible reduction of the white blood cell count with primary effect on granulocytes has been seen. Reversible thrombocytopenia has occurred rarely. When used with other antihypertensive drugs, potentiation of antihypertensive effect may occur. Patients should be followed carefully to detect side reactions or unusual manifestations of drug idiosyncrasy.

Use in Pregnancy: Use of any drug in women who are or may become pregnant requires that anticipated benefits be weighed against possible risks; possibility of fetal injury can not be excluded.

Precautions: Should be used with caution in patients with history of previous liver disease or dysfunction (see Warnings). May interfere with measurement of: uric acid by the phosphotungstate method, creatinine by the alkaline picrate method, and SGOT by colorimetric methods. Since methyldopa causes fluorescence in urine samples at the same wavelengths as catecholamines, falsely high levels of urinary catecholamines may be reported. This will interfere with the diagnosis of pheochromocytoma. It is important to recognize this phenomenon before a patient with a possible pheochromocytoma is subjected to surgery. Methyldopa is not recommended for patients with pheochromocytoma. Urine exposed to air after voiding may darken because of breakdown of methyldopa or its metabolites.

Stop drug if involuntary choreoathetotic movements occur in patients with severe bilateral cerebrovascular disease. Patients may require reduced doses of anesthetics; hypotension occurring during anesthesia usually can be controlled with vasopressors. Hypertension has recurred after dialysis in patients on methyldopa because the drug is removed by this procedure.

Adverse Reactions: *Central nervous system:* Sedation, headache, asthenia or weakness, usually early and transient; dizziness, lightheadedness, symptoms of cerebrovascular insufficiency, paresthesias, parkinsonism, Bell's palsy, decreased mental acuity, involuntary choreoathetotic movements; psychic disturbances, including nightmares and reversible mild psychoses or depression.

Cardiovascular: Bradycardia, aggravation of angina pectoris. Orthostatic hypotension (decrease daily dosage). Edema (and weight gain) usually relieved by use of a diuretic. (Discontinue methyldopa if edema progresses or signs of heart failure appear.)

Gastrointestinal: Nausea, vomiting, distention, constipation, flatus, diarrhea, mild dryness of mouth, sore or "black" tongue, pancreatitis, sialadenitis.

Hepatic: Abnormal liver function tests, jaundice, liver disorders.

Hematologic: Positive Coombs test, hemolytic anemia. Leukopenia, granulocytopenia, thrombocytopenia.

Allergic: Drug-related fever, myocarditis.

Other: Nasal stuffiness, rise in BUN, breast enlargement, gynecomastia, lactation, impotence, decreased libido, dermatologic reactions including eczema and lichenoid eruptions, mild arthralgia, myalgia.

Note: Initial adult dosage should be limited to 500 mg daily when given with antihypertensives other than thiazides. Tolerance may occur, usually between second and third month of therapy; increased dosage or adding a thiazide frequently restores effective control. Patients with impaired renal function may respond to smaller doses. Syncope in older patients may be related to increased sensitivity and advanced arteriosclerotic vascular disease; this may be avoided by lower doses.

How Supplied: Tablets, containing 125 mg methyldopa each, in bottles of 100; Tablets, containing 250 mg methyldopa each, in single-unit packages of 100 and bottles of 100 and 1000; Tablets, containing 500 mg methyldopa each, in single-unit packages of 100 and bottles of 100.

For more detailed information, consult your MSD representative or see full prescribing information. Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, Pa. 19486 J6AM07 (707)

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COMMITMENT

FAMILY COMMUNITY

Auxiliary News

By the time you read this, both the AMA Auxiliary Convention and the Summer Conference will be history. I will report on those events later.

At our convention in Wichita, Dr. Kugel spoke to the Auxiliary of the plans and changes at the Medical School, and thanked us for the AMA-ERF contribution.

Dr. Kugel also talked of the possibility of the Auxiliary inviting the faculty and their wives or husbands for a weekend at Kansas City and Wichita. The purpose of these visits would be to have the academic and community physicians and families become better acquainted. Dr. Kugel felt that physicians choosing the academic life are not sufficiently aware of the situations in which "doctors in the real world" find themselves. Undoubtedly, the reverse is also true. With the approval of the Society and Auxiliary executive committees, we are working on ways to bring about this professional and situational understanding.

A successful project of the Wyandotte County Auxiliary during the past year has been their Learning Center on Body Pollution. The main purpose of the Learning Center is to impress upon the thinking of 4th-, 5th-, and 6th-grade students that responsibility for their bodies is their own. The information they gain will affect the important choices they make about their bodies.

Both positive and negative aspects of the four pollutants—tobacco, alcohol, drugs, and poor nutrition—and the effects they have on the heart, lungs, blood, and brain are presented. The learning center contains six sections with three games each. At least one game must be played by one child alone, and one must be played by two or more students. Several are suitable for the entire class. The program includes four films: "What are you going to do about smoking?," "What are you going to do about alcohol?," "Me, Myself and Drugs," and "Food for Thought."

The Wyandotte Auxiliary members spent a year creating and developing this learning tool with the help of teaching aid professionals. It received a Public Service Award this year. After personally seeing the center being used by a class of 5th-graders in a Kansas City inner-city school, I was favorably impressed.

The State Auxiliary has budgeted funds for duplicating the center, which will become a traveling project. The Wyandotte Auxiliary is pleased to share their project with us and others. Information in the learning center is being checked and brought up to date, and a physician will review it for accuracy and appropriateness. This will need to be done annually to keep all material current.

Teacher response to this supplemental resource has been enthusiastic but the eagerness and skill of the students in showing me how to play the games convinced me it is an A+ project.

Doctor, this concludes my two points this month. I'll be back in September.

Sincerely,
Jackie Burnett
President
Kansas Medical Society Auxiliary

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Forty years ago, many childhood handicaps went undetected. And many babies, like this one, would have grown up to be "problem children" in school, their undiagnosed handicap preventing them from keeping pace with their classmates or perhaps denying them an education altogether.

But today, most difficult-to-diagnose handicaps can be detected early, often at birth. And once handicaps are detected, new ways of teaching handicapped children promise them a better chance than ever for a public education.

Count Your Kid In is a state-sponsored project whose sole purpose is to help parents help their handicapped children. If one of your patients is a handicapped child, from an infant to an 18-year-old, ask his parents to call us toll-free for help and information. You can call us for information on professionals in your area who perform education-related evaluations for handicapped children.

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Scientific ARTICLES

A New Antihypertensive

Metolazone Treatment of Hypertension

DANIEL M. THOMPSON, M.D., *Wichita*

METOLAZONE (Zaroxolyn®) is a new antihypertensive-diuretic agent which has been shown to be effective in the treatment of hypertension[1–8] and of edema due to liver, renal, or heart disease.[6, 9–13] It has been reported to have provided marked diuresis in some patients after thiazides and furosemide had failed.[13] Metolazone is effective in relatively small doses and has the further advantage of 24-hour natriuretic activity.[14] In a comparison with chlorothiazide in healthy volunteers, Steinmuller and Puschett[15] reported significantly less potassium excretion and a more prolonged diuretic effect with metolazone. Another study of its acute effects reported metolazone to be significantly less kaliuretic than acetazolamide, furosemide, or chlorothiazide.[16]

These generally favorable reports encouraged us to introduce metolazone into our practice for treatment of hypertension. The present paper is a review of our initial experience with this drug.

Patients and Methods

Our records identified 18 patients who had been treated with metolazone for at least one month. Three other patients who had received the drug for one or two weeks were also included, because they reported symptoms that could have been related to drug administration. The mean duration of metolazone therapy in the total group of 21 patients was 7.9 months, but 5 patients had been treated longer than 17 months at the time of this review.

Fifteen patients were treated with only metolazone and six others received concomitant antihypertensive medications. Metolazone was used primarily for blood pressure control in all but one case. In one hypertensive patient edema was accompanied by congestive heart failure. The most common associated medical problems were cardiovascular disease, arthritis, and obesity. Mean weight of the 13 females was 70.1 kg, while that of the 8 males was 85.1 kg. Age range was 46-84 years (mean: 67.1 yrs). Characteristics of the treated patients are shown in *Table I.*

The effective use of metolazone in controlling blood pressure in several patients who had not responded to previous therapy is presented.

Most patients had received previous antihypertensive therapy (furosemide, hydrochlorothiazide, or reserpine) with mixed results. A number had experienced a progressive loss of blood pressure control over long treatment periods with other agents. Before treatment with metolazone, systolic pressure ranged 104-206 mm Hg (mean: 159 mm Hg). Initial diastolic pressure ranged 60-110 mm Hg (mean: 80 mm Hg). The blood pres-

Address reprint requests to Dr. Thompson, 118 E. 21st, Wichita, KS 67214.

TABLE I

HYPERTENSIVE PATIENTS TREATED WITH METOLAZONE

Sex	*Age*	*Weight (kg)*	*Dosage (mg)*	*Duration (mo)*	*Most Recent Blood Pressure (mm Hg)*
F	71	73	10	27	126/72
M	71	77	2.5	10	138/90
M	72	52	2.5	1 wk	104/60
F	69	45	2.5	20	136/70
M	66	68	10	11	136/72
F	77	63	2.5	5	164/80
F	53	57	2.5	1	134/70
F	66	78	5	3	168/76
M	77	113	10*	18	172/90
M	65	107	5	22	140/80
M	67	90	2.5*	6	140/88
F	61	115	5	8	146/76
M	52	108	2.5	6	160/86
F	72	64	2.5	4	180/90
M	72	67	5	3	148/76
F	62	79	5	2	140/92
F	55	49	5	1	180/106
F	69	82	5	1 wk	176/84
F	84	71	5-10	17	130/66
F	46	73	10	1 wk	116/62
F	82	64	5x2	2	206/106

* Decreased to every other day.

sure of five patients was not satisfactorily controlled at the start of metolazone treatment, with diastolic blood pressure being greater than 85 mm Hg (mean: 184/101 mm Hg). Metolazone dosage ranged from 2.5 mg/every other day to 10 mg/day, but the majority of patients received 2.5 or 5 mg/day *(Table I)*.

Results

Treatment with metolazone proved to be highly satisfactory, producing sustained or improved blood pressure control. In the total group of 21 patients, mean systolic pressure was reduced from 159 mm Hg before the regimen of metolazone was started, to 150 mm Hg at the time of this review. Diastolic pressure was generally well controlled through the observation period, with a final blood pressure mean of 81 mm Hg. However, in the five patients with initial diastolic pressure greater than 85 mm Hg, mean diastolic pressure decreased from 101 to 94 mm Hg during treatment with metolazone. Three of these five had truly impressive responses, experiencing a mean reduction of 10 mm Hg, while the fourth had a strong initial response (–26 mm Hg) which was not sustained. The major change was manifested in the fifth patient by a 20 mm Hg reduction in systolic pressure. Mean systolic pressure in these five patients decreased from 184 to 167 mm Hg during treatment.

Blood pressure control was maintained in 9 of 13 patients who were switched to metolazone and received the drug for at least one month. Mean blood pressure in these nine was 154/74 mm Hg before metolazone therapy was begun, and 143/73 mm Hg at the most recent observation. Metolazone was employed as sole antihypertensive therapy in seven of the nine patients whose control was sustained. One other patient received chlorthalidone as concomitant medication. In a second case, improved control was obtained after a combination of spironolactone and hydrochlorothiazide was added to a daily regimen of metolazone 10 mg.

While some loss of control occurred in four patients, the most recent reading of diastolic pressure was significantly hypertensive (equal to or greater than 90 mm Hg) in only two patients. Blood pressure readings at the time of this review are provided in *Table I* for all patients treated.

Three patients were discontinued from metolazone therapy because of side effects: (1) 69-year-old female weighing 82 kg, lost 4 kg within four days of starting

a daily regimen of metolazone 5 mg. She complained of weakness and dizziness; (2) 72-year-old male with a history of myocardial infarction, was removed from treatment after one week with complaints of dizziness; (3) 71-year-old male responded well to metolazone 2.5 mg/day. His blood pressure was reduced from 174/96 to 138/90 mm Hg over a ten-month period, however, his regimen was changed to furosemide after persistent complaints of mild nausea, lightheadedness, and a burning sensation at urination.

A number of other patients reported possible side effects, usually lightheadedness or dizziness, which were mild and typical of those occurring during antihypertensive therapy. One patient reported a burning sensation at urination, after chlorthalidone was added to her daily regimen of metolazone 5 mg.

Discussion

Metolazone was effective in controlling the blood pressure of several patients who had not responded satisfactorily to prior therapy. A 65-year-old male weighing 107 kg was put on a regimen of metolazone 5 mg/day when his blood pressure was 174/86 mm Hg. He reported feeling considerably better and his pressure had decreased to 158/76 mm Hg four months later. He has now been controlled with metolazone for 22 months.

A 77-year-old male presented with cardiac edema and dizziness. After trials with furosemide and a combination of guanethidine and hydrochlorothiazide, his weight was 113 kg and his blood pressure 206/110 mm Hg. A regimen of metolazone 10 mg/day was begun, and seven weeks later his blood pressure had decreased to 168/72 mm Hg. Dosage was decreased to 10 mg/every other day because of complaints of dizziness. After nine months of therapy, his weight loss was 9 kg, and his blood pressure 128/76 mm Hg. However, when seen seven months later, his pressure was 190/100 mm Hg, perhaps as a result of dosage neglect. Methyldopa was added, and the combination resulted in improved control.

We generally found metolazone to be highly effective in long-term use, with few problems of developing tolerance to the drug or increase in side effects. This observation is similar to that of Cangiano *et al.*,[3] who obtained good blood pressure control with metolazone in treatment periods of up to 92 weeks. Recently, Cangiano[17] extended these observations to patients with treatment periods of 40-60 months. One of our patients has been well controlled with metolazone alone after 22 months of treatment, and a total of eight patients have experienced sustained control for periods greater than eight months. One of these was a 69-year-old female with extensive fibromuscular hyperplasia, whose regimen of a combination of hydrochlorothiazide and reserpine was changed to a daily regimen of metolazone 2.5 mg, when her blood pressure was 168/72 mm Hg. She has now been well controlled during 20 months of metolazone administration, her most recent blood pressure being 136/70 mm Hg.

The introduction of this new antihypertensive agent into our practice resulted in sustained or improved control of hypertension in most patients treated. Metolazone was generally well tolerated. It enhanced patient compliance while providing long-term hypertension treatment with good control and few side effects.

Summary

Metolazone, a new antihypertensive-diuretic agent, was given to 21 patients; dosage ranged from 2.5 mg/every other day to 10 mg/day. The majority of patients had suffered from hypertension for several years, with mixed results after treatment with various other antihypertensive agents. Mean duration of metolazone therapy was 7.9 months, but five patients have now received the drug for 17 months or longer. Six patients received metolazone with concomitant antihypertensive medication.

Blood pressure control was maintained in 9 of 13 patients whose regimen was changed to metolazone. They received the drug for at least one month. In these nine, mean blood pressure was 154/74 mm Hg before metolazone therapy was started, and 143/73 mm Hg at the time of this review. Mean blood pressure of the five patients who were not satisfactorily controlled at the start of metolazone treatment decreased from 184/101 to 167/94 mm Hg during therapy. Mean blood pressure in the total group of 21 patients was 150/81 mm Hg at the most recent observation. Most patients experienced sustained or improved control while on metolazone.

Despite long treatment periods, there were few problems with side effects. Those encountered were generally mild, typical of those occurring during treatment of hypertension, and warranted discontinuation of therapy in only three cases.

References

1. Pikewski, R. M. *et al.:* Technique of controlled drug assay in hypertension: V. Comparison of hydrochlorothiazide with a new quinethazone diuretic, metolazone. *Clin. Pharmacol. Ther.* 12:843-848, 1971.

2. Fotiu, S. *et al.:* Antihypertensive efficacy of metolazone. *Clin. Pharmacol. Ther.* 16:318-321, 1974.

(Continued on page 342)

Liver Abscess

Eikenella Corrodens and Streptococci

K. G. NAGESH, M.B.B.S.; K. P. POULOSE, M.D., *and*
G. M. RAO, M.D., *Leavenworth*

EIKENELLA CORRODENS, formerly known as HB-1 or Bacteroides corrodens, is a slow-growing facultative anaerobe which has been recently recognized as a significant pathogen causing wide variety of human infections either alone or in synergy with other organisms.[1-5] A case of liver abscess in which Eikenella corrodens and streptococci were isolated from liver abscess and multiple blood cultures is reported. To our knowledge, this is the first such case report.

A case report of pyogenic liver abscess, caused by Eikenella corrodens in synergy with streptococcus, is presented. Successful treatment was maintained with surgical drainage and a regimen of antibiotics.

Case Report

A 53-year-old white male truck driver was admitted to the hospital on July 19, 1975, with a history of fever, chills, malaise of eight weeks' duration, and 40 lbs weight loss. Prior to this admission, he had similar complaints and was investigated with no conclusive diagnosis. Physical examination on admission revealed the following: temperature, 101F (38.3C); pulse rate, 106 beats/min; blood pressure, 120/80 mm Hg; respirations, 18/min. Liver was enlarged and palpable 3½ inches below right costal margin. Spleen was palpable 1 inch below left costal margin. There were a few small palpable lymph nodes in the posterior cervical chain and one in the left axilla. The other examination results were within normal limits.

The initial laboratory data revealed the following values: hemoglobin, 6.9 gm/100 ml; hematocrit, 22%; WBC, 6,500/cu mm; with a differential of 12% lymphocytes, 6% monocytes, 10% bands, and 72% segmented neutrophils. Sedimentation rate was 20 mm/hr; SGOT, 38 units/ml; SGPT, 56 units/ml; LDH, 238 units/ml; total bilirubin serum, 2.6 mg/100 ml, with direct reading of 1.65 mg/100 ml; alkaline phosphatase serum, 350 units/liter, gamma glutamyl transpeptidase, 214 units/ml; serum folic acid, 3.5 ng/ml; serum B12, 1,631 pg/ml.

Bone marrow showed 2+ stainable iron. The results of chest x-ray, intravenous pyelogram, and abdominal and pelvic lymphangiograms were within normal limits. Initial liver scan showed hepatosplenomegaly with no focal defect. Several blood cultures drawn grew Eikenella corrodens and streptococcus alpha hemolyticus not groupable under A, B, or D. Isolation of Eikenella corrodens was confirmed by referral to Communicable Disease Center, Atlanta. Gallium 67-citrate scan performed on August 4, 1975, revealed increased uptake on the posterior aspect of the right lobe of the liver. Repeat liver scan showed a focal defect in the same area. Since the patient was allergic to ampicillin, he

Address reprint requests to Dr. Nagesh, Veterans Administration Center, Leavenworth, KS 66048.

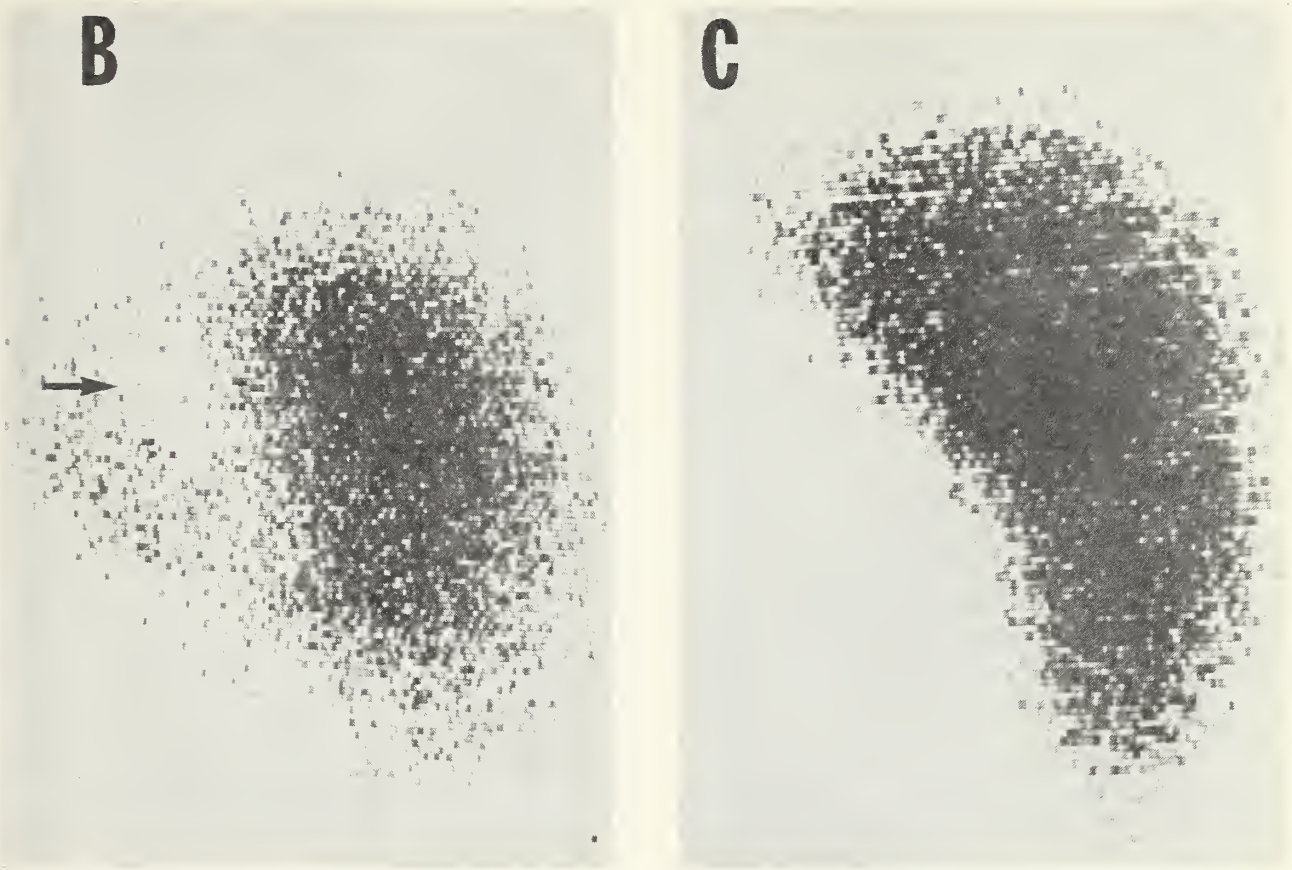

Figure 1. Liver scan (A, B) demonstrating a large filling defect (liver abscess) involving the posterior aspect of the liver near the dome.

was initially treated with chloramphenicol (based on culture and sensitivity report). Erythromycin was administered subsequently. He underwent surgical drainage of the liver abscess on August 26, 1975, at which time about 15 cc of purulent material was aspirated. Culture grew Eikenella corrodens and streptococcus alpha hemolyticus, while biopsy obtained from the immediate vicinity of the liver abscess at the time of surgery revealed chronic and acute inflammation, acute necrosis, and microabscess formation. The patient gradually improved, with subsidence of fever, following the drainage. Discharged from the hospital on September 19, 1975, his progress was followed in the outpatient clinic for over a year; he has remained asymptomatic and serial liver scans showed a complete resolution of the liver abscess.

Discussion

Eikenella corrodens is an inhabitant of the mouth or the upper respiratory tract, and probably inhabits gastrointestinal tract as well.[1] It has a potential to invade blood stream and produce serious infection in man.[6] One study demonstrated a 16-per cent incidence of positive blood culture one minute following dental extraction.[7] More recently, Eikenella corrodens has been shown to be the infective agent in endocarditis,[8] osteomyelitis arthritis and cellulitis of the hand,[9] and pancreatic abscess.[10] To our knowledge, Eikenella corrodens has not been implicated in pyogenic liver abscess.

Pyogenic liver abscess sufferers usually present with fever, chills, malaise, weight loss, hepatomegaly, jaundice, pain or tenderness in the right-upper quadrant. Time interval from the onset of symptoms to diagnosis may range from a few days to longer than a year. Laboratory data may include anemia, leukocytosis, jaundice, and elevated alkaline phosphatase.[11, 12] The patient reported here had similar complaints. Pyogenic liver abscess in the middle-aged and elderly carries high mortality. Hence, early laboratory identification of the pathogen is important. This coupled with appropriate antibiotic therapy and surgical drainage should result in resolution of the abscess in the majority of patients.

The exact source of infection in our patient could not be established. There was no history of previous surgery, peptic ulcer disease, colitis, pancreatitis, or radiologic evidence of gallbladder disease.

Radiographs of the teeth obtained after the acute illness did reveal abscessed teeth. One might speculate that the source of infection could be dental in origin.

Figure 2. Repeat liver scan (C, D) one year later, showing complete resolution of the liver abscess.

Summary

This is the first known case report of pyogenic liver abscess caused by Eikenella corrodens in synergy with streptococcus. Patient presented with fever, anemia, hepatosplenomegaly, and abnormal liver function studies. Scinti scanning helped to localize the abscess in the liver, which was treated with surgical drainage and antibiotics with complete resolution of the abscess.

Acknowledgment

Gloria E. Veach isolated and identified the pathogen.

References

1. Brooks, G. F. *et al.:* Eikenella corrodens: A recently recognized pathogen. *Medicine (Balt.)* 53:325-342, 1974.

2. Marsden, H. B. and Hyde, W. A.: Isolation of Bacterioides corrodens from infections in children. *J. Clin. Pathol.* 24:117-119, 1971.

3. Kaplan, J. M.; McCracken, G. H., Jr. and Nelson, J. D.: Infections in children caused by the HB group of bacteria. *J. Pediat.* 82:398-403, 1973.

4. Litwack, K. and Borchardt, K.: Osteomyelitis (of tibia) caused by a corrodens-like organism (HB-1). *Clin. Med.* 80:21, 1973.

5. Carruthers, M. M. and Sommers, H. M.: Letter: Eikenella corrodens osteomyelitis. *Ann. Intern. Med.* 79:900, 1973.

6. Dorff, G. J.; Jackson, L. J. and Rytel, M. W.: Infection with Eikenella corrodens: A newly recognized human pathogen. *Ann. Intern. Med.* 80:305-309, 1974.

7. Khairat, O.: Bacteroides corrodens isolated from bacteriaemias. *J. Path. Bact.* 94:29-40, 1967.

8. Geraci, J. E.; Hermans, P. E. and Washington, J. A. II: Eikenella corrodens endocarditis: Report of cure in two cases. *Mayo Clin. Proc.* 49:950-953, 1974.

9. Johnson, S. M. and Pankey, G. A.: Eikenella corrodens osteomyelitis, arthritis and cellulitis of the hand. *Southern Med. J.* 69:535-539, 549, 1976.

10. Lutwick, L. I.: Pancreatic abscess with Hemophilus Influenzae and Eikenella corrodens. *JAMA* 236:2091-2092, 1976.

11. Lazarchick, J. *et al.:* Pyogenic liver abscess. *Mayo Clin. Proc.* 48:349-355, 1973.

12. Rubin, R. H.; Swartz, M. N. and Malt, R.: Hepatic abscess: Changes in clinical bacteriologic and therapeutic aspects. *Amer. J. Med.* 57:601-610, 1974.

A New Antihypertensive

(Continued from page 339)

3. Cangiano, J. L. *et al.:* The effects of metolazone in the long-term treatment of essential hypertension. *Curr. Ther. Res.* 16:778-785, 1974.

4. Sambhi, M. P. *et al.:* A crossover comparison of the effects of metolazone and hydrochlorothiazide therapy on blood pressure and renin angiotensin system in patients with essential hypertension, in Sambhi, M. P. (Ed.): *The Systemic Effects of Antihypertensive Agents,* Miami, Florida, Symposia Specialists, 1976.

5. Benedetto, E. R.: Use of metolazone in refractory hypertension. *Ohio State Med. J.* 73:31-33, 1977.

6. Kessler, F. D.: Effective blood pressure reduction and diuresis with metolazone. *J. Med. Assoc. Georgia* 65:376-379, 1976.

7. Weingarten, C.: Clinical evaluation of metolazone, a long acting antihypertensive/diuretic. *Curr. Ther. Res.* 20:737-744, 1976.

8. Van Hoose, M. C. and Cutler, R. E.: Antihypertensive efficacy of metolazone (Zaroxolyn®) alone and combined with reserpine in treatment of essential hypertension. *Curr. Ther. Res.* 20:266-276, 1976.

9. Hillenbrand, P. and Sherlock, S.: Use of metolazone in the treatment of ascites due to liver disease. *Brit. Med. J.* 4:266-270, 1971.

10. Bennett, W. M. and Porter, G. A.: Efficacy and safety of metolazone in renal failure and the nephrotic syndrome. *J. Clin. Pharmacol.* 13:357-364, 1973.

11. Craswell, P. W. *et al.:* Use of metolazone, a new diuretic, in patients with renal disease. *Nephron.* 12:63-73, 1973.

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Erythroleukemia

Reticulum Cell Sarcoma

NARONGSAK K. THADA, M.D., ***Hays***

THE DEVELOPMENT of a leukemic phase in the course of malignant lymphoma is a well known phenomenon. Lymphosarcoma occasionally will develop in a leukemic proliferation of immature lymphocytes known as lymphosarcoma cell leukemia.[1] However, the association of a malignant lymphoma with an unrelated reticuloendothelial malignancy, acute myelogenous leukemia, is very rare.[2] At least nine cases of acute leukemia have been reported in literature of patients with lymphocytic lymphoma, and seven cases with reticulum cell sarcoma.[3–10] To our knowledge, there has been only one case of advanced lymphocytic lymphoma terminating as erythroleukemia.[5] Reported below is an additional case of reticulum cell sarcoma, which was treated by chemotherapy and local radiation therapy and which subsequently developed erythroleukemia.

Case Report

An 83-year-old white female presented herself at The Bronx-Lebanon Hospital Center in September 1970, with the right inguinal lymph node enlargement, edema of the right leg, and generalized pruritus. Biopsy of the lymph node revealed malignant lymphoma, nodular and diffuse histiocytic type. Bone marrow was moderately hypercellular, with unremarkable granulocytes and normoblasts. There was focal increase in the eosinophils and a focus of lymphocytes with an increase in the stromal cell. She was treated with Oncovin (1.5 mg intravenously weekly) and prednisone (40 mg orally). In the fifth week of the treatment, she was placed on maintenance therapy with oral cyclophosphamide 50-100 mg daily for about 20 months. There was good response until August 1972, when the patient developed a painless enlargement of the left inguinal lymph node, which failed to reinduct with two doses of Oncovin, prednisone, and cyclophosphamide. The lymph node biopsy revealed reticulum cell sarcoma, and the bone marrow at this time was hypercellular with erythroid hyperplasia seen in all stages. Megakaryocytes and myeloid elements were unremarkable. The patient received a dose of local radiation therapy 5700 rads on the left inguinal area in February 1973, and 4600 rads on the right inguinal area in June 1973. No other subsequent chemotherapy was given. She developed anemia and thrombocytopenia, and the peripheral blood smear showed nucleated red cell, tear drop, myeloblast and pseudo Pelger-Huët anomaly in February 1974. Bone marrow proved hypercellular, with increased myeloblasts, as well as erythroblasts with megaloblastoid changes; megakaryocytes were almost absent. Bone marrow chromosome study revealed many hypodiploid cells. Laboratory results of serum folic acid and B12 tests were unremarkable. Histochemical study by naphthol (ASD) chloroacetate esterase stain demonstrated the myeloid nature of the majority of the cells. The a-naphthyl butyrate esterase (nonspecific esterase) gave no evidence of monocytes or histiocytes.

A case of erythroleukemia occurring in a patient with reticulum cell sarcoma.

Because of her age and generally poor condition, the patient was treated supportively. She died two months later. At autopsy, the residual reticulum cell sarcoma was found in the mesenteric nodes.

Discussion

It is reasonable to assume that erythroleukemia developed in this patient as a result of treatment with alkylating agent and local radiation therapy for the reticulum cell sarcoma. Erythroleukemia occurred 40 months after the initial chemotherapy, and one year after local radiation therapy. The patient died two months after erythroleukemia was diagnosed.

Acute leukemia has been observed in patients with neoplasms treated with radiation therapy or chemotherapy. The cause of acute leukemia in reticulum cell sarcoma is unknown. Lowenbraun[10] reported two patients developing acute leukemia four months to one year after diagnosis of reticulum cell sarcoma. He found seven cases of reticulum cell sarcoma terminating in acute myelogenous leukemia; six of these—as well as our case—received radiation therapy as part of treatment. Ex-

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posure to radiation has been known to be leukemogenic,[11] by involving the release or activation of leukemic virus.[12]

Our patient and others[10] reporting with reticulum cell sarcoma received alkylating agents, which are effective suppressors of the immune response.[13] The therapy with alkylating agents may have further depressed an already depressed immune system, resulting in impairment of the normal immunologic surveillance mechanism to a degree which allowed a malignant clone of cells to proliferate.

The other possible mechanism of acute leukemia is the chromosomal abnormality, which can be the result of ionizing radiation[14] or use of alkylating agent.[15] Aneuploidy that is either hypodiploid, hyperdiploid, or pseudodiploid is often associated with acute myelogenous leukemia and erythroleukemia.[16, 17] Chromosome analysis in our patient showed many hypodiploid cells.

On the basis of clinical and laboratory observation, acute erythroleukemia in this case is an entity distinct from reticulum cell sarcoma.

Summary

A patient with reticulum cell sarcoma, who had been treated with alkylating agent and local radiotherapy, subsequently developed erythroleukemia 40 months after initial chemotherapy and one year after radiotherapy. Chromosome analysis showed hypodiploid cells. Ionizing radiation or cyclophosphamide may be responsible for the acute leukemic development. The terminating acute erythroleukemia in this case is an entity distinct from reticulum cell sarcoma.

References

1. Schwartz, D. L. *et al.:* Lymphosarcoma cell leukemia. *Amer. J. Med.* 38:773-786, 1965.

2. Weiss, R. B.; Brunning, R. D. and Kennedy, B. J.: Lymphosarcoma terminating in acute myelogenous leukemia. *Cancer* 30:1275, 1972.

3. Gosselin, G. *et al.: Apparition D'une Leucémie myéloïde aiguë au cours de l'évolution d'un lymphosarcome. Un. Med. Canada* 99:866-870, 1970.

4. Weiss, R. B.; Brunning, R. D. and Kennedy, B. J.: Lymphosarcoma terminating in acute myelogenous leukemia. *Cancer* 30:1275-1278, 1972.

5. Rappaport, A. H.; Cohen, R. J. and Castro, J. R.: Erythroleukemia following total-body irradiation for advanced lymphocytic lymphoma. *Radiology* 115:179-180, 1975.

6. Poth, J. L. *et al.:* Acute myelogenous leukemia following localized radiotherapy. *Arch. Intern. Med.* 128:802-805, 1971.

7. Gunz, F. W. *et al.:* Development of acute leukaemia in a patient with lymphosarcoma. *New Zeal. Med. J.* 78:71-75, 1973.

8. Hornbaker, J. H.: Giant follicular lymphoblastoma terminating in acute myelogenous leukemia. *Ann. Intern. Med.* 53:221-227, 1960.

9. Kroese, W. R. S.; Cleton, F. J. and Somers, R.: Leukaemic progression in lymphomata. *Brit. J. Cancer* 31:102-106, 1975.

10. Lowenbraun, S. *et al.:* Transformation of reticulum cell sarcoma to acute leukemia. *Cancer* 27:579, 1971.

11. Cronkite, E. P.; Moleney, W. and Bond, V. P.: Radiation leukemogenesis, an analysis of the problem. *Amer. J. Med.* 28:673, 1960.

12. Jenkins, V. K. and Upton, A. C.: Cell-free transmission of radiogenic myeloid leukemia in the mouse. *Cancer Res.* 23:1748-1755, 1963.

13. Boesen, E. and Davis, W.: *Cytotoxic Drugs in the Treatment of Cancer.* London, Edward Arnold Ltd., 1969, p. 37.

14. Court-Brown, W. M.: Observations on possible mechanisms of leukemic induction in man following radiation exposure. *Nat. Cancer Inst. Monogr.* 14:291-299, 1964.

15. Arrighi, F. E. and Bergsagel, D. E.: Chromosome damage in murine and human cells following cytoxan therapy. *Texas Rep. Biol. Med.* 20:545-549, 1962.

16. Heath, C. W. and Moloney, W. C.: Cytogenic observations in a case of erythroleukemic myelosis. *Cancer* 18:1495, 1965.

17. Sandberg, A. A. *et al.:* Chromosomes and causation of human cancer and leukemia. *Cancer* 22:1268, 1968.

A New Antihypertensive

(Continued from page 342)

12. Dargie, H. J. *et al.:* Efficacy of metolazone in patients with renal edema. *Clin. Nephrol.* 2:157-160, 1974.

13. Beck, P. and Asscher, A. W.: Clinical evaluation of metolazone (Zaroxolyn): A new quinazoline diuretic. *Clin. Trials J.* 8:13-18, 1971.

14. Materson, B. J. *et al.:* Oral metolazone: Effects on urine composition in water-loaded normal man. *Curr. Ther. Res.* 14:545-560, 1972.

15. Steinmuller, S. R. and Puschett, J. B.: Effects of metolazone in man: Comparison with chlorothiazide. *Kidney Int.* 1:169-181, 1972.

16. Puschett, J. B. and Rastegar, A.: Comparative study of the effects of metolazone and other diuretics on potassium excretion. *Clin. Pharmacol. Ther.* 15:397-405, 1974.

17. Cangiano, J. L.: Effects of prolonged administration of metolazone in the treatment of essential hypertension. *Curr. Ther. Res.* 20:745-750, 1976.

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Growth Failure

Nephrogenic Diabetes Insipidus

MICHAEL A. LINSHAW, M.D.; F. BRUDER STAPLETON, M.D.; *and* JOYCE KNAPP, R.D., ***Kansas City, Kansas***

INFANTILE nephrogenic diabetes insipidus is characterized by a profound renal concentrating defect and is often associated with growth failure and varying degrees of mental retardation.[1] Growth failure is attributed to decreased caloric intake, which is inevitable if the infant is to ingest enough water to avoid repeated episodes of hypernatremic dehydration and consequent mental retardation.[2, 3]

It is particularly difficult to maintain normal osmolality and progressive growth during early infancy when the child cannot regulate his own nutritional intake. Reported here is a case of an infant with poor nutritional intake and growth failure due to nephrogenic diabetes insipidus. By temporarily providing a commercial high-caloric, high-protein, low-solute formula with large quantities of water for adequate hydration, the infant resumed a normal linear growth rate and maintained normal water balance until he was able to ingest a normal diet.

Case Report

A 10½-month-old white male was referred to the University of Kansas Medical Center for evaluation of constipation, polyuria, polydipsia, hypernatremic dehydration, and growth failure. The infant, a 3600-gm product of a normal pregnancy, was initially breast fed, and appeared healthy although his length was at the third percentile by the third month. He was introduced to Similac at four months. Shortly thereafter, he began to vomit 3-4 times/day, developed pebble-like stools, cried until given large quantities of water, and began soaking 10-12 diapers/day. A feeding problem was suspected and the parents were advised to allow the child to suck at wet cloths. He soon sucked 12-15 cloths daily until they were dry. By age 6 months, the child's daily fluid intake, not including the wet cloths, was estimated to be about 78 oz, with a definite preference for water. His diet was changed to 2½% milk, but he refused solid foods, and stopped growing. Despite consuming larger quantities of water, he developed hypernatremic dehydration (serum sodium, 169 mEq/l). There was no family history of renal disease or polyuria; however, 18-hour water deprivation tests on other family members revealed that the child's maternal grandmother showed evidence of renal concentrating defect. Physical examination showed an irritable, chronically dehydrated child with a head circumference of 43.5 cm (3rd percentile); length, 60.5 cm; weight, 6.5 kg (both < 3rd percentile); temperature, 37.2 C; respirations, 26/min; pulse rate, 132 beats/min; blood pressure, 110 mm Hg systolic. The child exhibited the following: dry skin without tenting, sunken eyes, and slight moist mucous membranes and tongue. No hepatosplenomegaly was found, but there were several mobile, hard abdominal masses. The results of the neurological examination were normal. Laboratory values were as follows: hemoglobin, 9.8 gm/100 ml; blood urea nitrogen (BUN), 83; sodium (Na), 155; potassium (K), 5.2; chloride (Cl), 119; bicarbonate ion (HCO_3), 21; serum creatinine, 0.8 mg/100 ml; calcium, 10.4; phosphorus, 6.6; uric acid, 5.2. Serum and urine osmolality were 343 and 172 mOsm/l respectively. Urine volume ranged 1,200-1,700 ml/day. Urinalysis was normal with a specific gravity of 1.006. Hypernatremic dehydration was treated with oral administration of water and solute. After rehydration with correction of hyperosmolality, renal function studies showed no amino aciduria, glycosuria, hyperuricuria, or hypercalciuria. Tubular reabsorption of phosphate was 85%, and creatinine clearance was 104 ml/min/1.73 m^2. The results of renal scan and voiding cystourethrogram were normal.

During a water deprivation test,[4] the child lost 5 per cent of his body weight, and his serum and urine osmolality after 12 hours were 326 and 320 mOsm/l respectively. Lysine vasopressin (Diapid) was then administered nasally due to shortage of aqueous vasopres-

A case of an infant with congenital nephrogenic diabetes insipidus complicated by growth failure is presented. Treatment was maintained with dietary therapy.

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sin. One hour later, the serum and urine osmolality rose to 338 and 326 mOsm/l respectively. Because of the uncertainties of nasal vasopressin (ADH) absorption, pitressin tannate in oil 0.5 ml was injected deeply into the child's lateral thigh. Care was taken to assure that the small spot of pitressin located at the bottom of the vial was thoroughly mixed with the injectable oil solution. There was no antidiuretic response during the subsequent 24-hour period.

The child was placed on a regimen of Ensure, a high-protein, high-caloric, low-solute formula. He received 600 ml of formula supplemented by 1800 ml of water daily during the first three months. Daily fluid intake was then increased to 960 ml of Ensure and 2100-2400 ml of water. The child maintained normal levels of serum electrolytes and creatinine. Solid foods were given five months after starting formula (age 15½ months), and Ensure was discontinued within two weeks. Head circumference was 47 cm (>10th percentile) at age 18 months. At age 24 months, the developmental examination was completely normal and serum electrolytes and creatinine levels remained normal. Overzealous dietary intake at home led to marked weight gain. However, the progressive increase in weight was slowed by subsequent dietary restriction when the child's length continued to increase. Linear growth and weight gain before, during, and after Ensure therapy is shown in *Figure 1.*

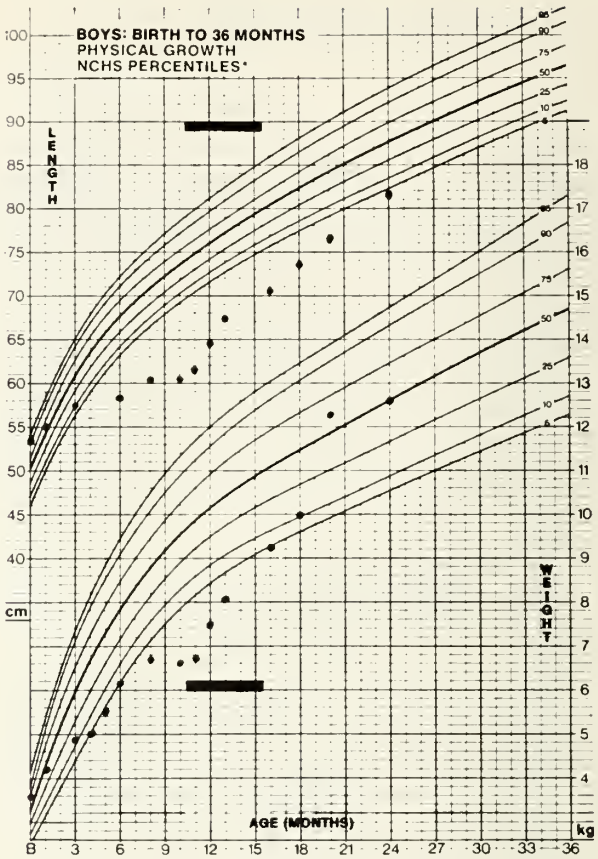

Figure 1. Growth curves for weight and length before, during, and after Ensure therapy. Solid bar indicates period of Ensure therapy.

Discussion

The child with congenital nephrogenic diabetes insipidus poses a dilemma regarding growth. The large volume of water necessary to maintain normal osmolality in the presence of a renal concentrating defect often precludes a diet adequate in protein and calories for growth. This problem is particularly difficult to manage in young infants who cannot maintain their own fluid intake. Unless fluid intake is adequate, episodes of hypernatremic dehydration occur and may ultimately lead to mental retardation. The frustration in treating infants with nephrogenic diabetes insipidus has been recently summarized.[5] Our case report suggests that growth in infancy need not be sacrificed for mental development.

The basic principles of treatment for nephrogenic diabetes insipidus have been well established[2, 6] and were applied to this child by providing him with a commercial formula low in renal solute load, yet adequate in protein and caloric content. Ensure, a vanilla flavored nutritional supplement, contains corn syrup solids, sucrose, caseinate, soy protein isolate, and corn oil. One liter provides a renal solute load of 243 mOsm.[7] A daily intake of Ensure 600 ml provided our patient with 636 calories (100 calories/kg), 23 gm protein (3.5 gm/kg), and a renal solute load of 146 mOsm. To handle this solute load, the child was provided with water 1800 ml supplemented by a volume of water equal to estimated insensible water losses. This quantity was calculated to allow the solute to be excreted in urine, osmolality 82 mOsm/l, and still maintain water balance. Increasing the formula to 960 ml/day raised the solute load to 233 mOsm, obligated 2,000 ml of urine at 117 mOsm/l osmolality, and provided nutrition adequate to promote growth until the child was able to take solid foods.

Chlorothiazide diuretics have been shown to be a valuable aid to therapy in nephrogenic diabetes insipidus by inhibiting sodium reabsorption in the diluting segment of the nephron. The resultant volume depletion leads to increased proximal tubular sodium reabsorption and decreased delivery of filtrate to the distal nephron.[8-11] We avoided such therapy because of possible hematological side effects,[12] and because growth and development began to proceed satisfactori-

ly with dietary therapy. This child's progress emphasizes that even in young infants, protein and caloric intake adequate to promote growth can be provided without inducing episodes of hypernatremic dehydration.

Summary

The infant with congenital nephrogenic diabetes insipidus presents a dilemma regarding growth. Large volume of water necessary to maintain normal osmolality often precludes a diet adequate in protein and calories. This problem may not resolve until the child is old enough to maintain his own fluid intake.

A case has been reported of an infant who refused solid foods and stopped growing. Well known principles were applied to his dietary therapy which provided him with a commercial formula low in renal solute load, yet adequate in protein and caloric content. After a transition period of five-and-one-half months, the infant began taking solid foods and the formula was discontinued. Progressive growth occurred during and after the formula therapy. Temporary use of this formula provided a practical solution to a difficult therapeutic problem.

Acknowledgment

Percentiles and chart are adapted from the National Center for Health Statistics, NCHS Growth Charts, 1976, Monthly Vital Statistics Report, Vol. 25, No. 3, Supp. (HRA) 76-1120, Health Resources Administration, Rockville, Maryland, June, 1976. Data from The Fels Research Institute, Yellow Springs, Ohio.

References

1. Kirman, B. H. *et al.:* Familial pitressin-resistant diabetes insipidus with mental defect. *Arch. Dis. Child.* 31:59, 1956.
2. Hillman, D. A. *et al.:* Renal (vasopressin-resistant) diabetes insipidus. *Pediatrics* 21:430, 1958.
3. Gautier E. and Simpkis, M.: The management of nephrogenic diabetes insipidus in early life. *Acta. Paediat. Scand.* 46:354, 1957.
4. Miller, M. *et al.:* Recognition of partial defects in antidiuretic hormone secretion. *Ann. Intern. Med.* 73:721, 1970.
5. Calcagno, P. and Hollerman, C. E. in Rubin, M. I. and Barratt, T. M.: *Pediatric Nephrology.* Baltimore, Williams and Wilkins Company, 1975, p. 677.
6. Talbot, N. B.; Richie, R. H. and Crawford, J. D.: *Metabolic Homeostasis.* Cambridge, Massachusetts, Harvard University Press, 1959, pp. 120-123.
7. Ziegler, E. E. and Fomon, S. J.: Fluid intake, renal solute load and water balance in infancy. *J. Pediat.* 78:561, 1971.
8. Crawford, J. D.; Kennedy, G. C. and Mill, L. E.: Clinical results of treatment of diabetes insipidus with drugs of chlorothiazide series. *New Eng. J. Med.* 262:737, 1960.
9. Schotland, M. G.; Grumbach, M. M. and Strauss, J.: The effects of chlorothiazide in nephrogenic diabetes insipidus. *Pediatrics* 31:741, 1963.
10. Earley, L. E. and Orloff, J.: The mechanism of antidiuresis associated with the administration of hydrochlorothiazide to patients with vasopressin-resistant diabetes insipidus. *J. Clin. Invest.* 41:1988, 1962.
11. Weiner, M. W. *et al.:* Accelerated reabsorption in the proximal tubule produced by volume depletion. *J. Clin. Invest.* 50:1379, 1971.
12. Schotland, M. G. and Grumbach, M. M.: Neutropenia in an infant secondary to hydrochlorothiazide therapy: With a review of hematologic reactions to "thiazide" drugs. *Pediatrics* 31:754, 1963.

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Purpose and Technique

The Role of Cytology in the Diagnosis of Gastrointestinal Cancer

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The use of cytology in the diagnosis of cancer of the gastrointestinal tract is discussed, and detailed specimen collection methods and suggestions of how this may be accomplished in a general hospital are presented.

CYTOLOGY has three basic uses in diagnosis of cancer of any site. These are: (1) screening of populations or high-risk patients for new cancer cases; (2) diagnosis of cancer in patients with symptoms; and (3) followup of patients treated for cancer.

Gastrointestinal cancer has not been included in the massive cytology screening programs primarily because the specimen collection procedures for these sites are relatively difficult and time consuming. However, the value of cytology in detecting clinically unsuspected gastrointestinal carcinoma has been reported by early investigators.[1] More recently, gastric cytology has been used in cancer screening programs of high-risk patients, and is recommended especially for patients with gastric achlorhydria, pernicious anemia, gastritis or patients complaining of dyspepsia or anorexia, who have not responded to simple treatment for one month and have no definite evidence of malignancy on barium meal examination.[2, 3]

It should be stressed, however, that gastrointestinal cytology is used predominantly for investigation of patients with cancer symptoms, and is a valuable adjunct to biopsy, endoscopy, and radiology. The combination of all such methods results in the diagnostic accuracy of over 95 per cent. Moreover, cytology of the gastrointestinal tract may assist in diagnosing several benign conditions, *i.e.* inflammatory reactive atypia, herpetic esophagitis, lymphoreticular hyperplasia, chronic follicular gastritis, intestinal metaplasia, and giardiasis.

During the past seven years at St. Francis Hospital, at least ten cases of gastrointestinal cancer were found. These cases were diagnosed as highly suspicious or positive by cytology, but cancer was not found in the tissue biopsy taken at the same time as the cytology specimen. The four cases reported below from this series demonstrate malignant morphology.

Case One

A 68-year-old female was admitted to the hospital complaining of difficulty in swallowing. She had been a heavy smoker (2 packs/day) and a heavy drinker, but had recently stopped. Cytology testing (esophageal brush) proved positive, showing numerous groups of poorly differentiated epidermoid-type malignant cells *(Figure 1)*. Esophageal mucosa with no evidence of any atypical changes present was demonstrated by tissue biopsy of the esophagus. Squamous cell carcinoma of esophagus was the final diagnosis.

Case Two

A 79-year-old female was admitted to the hospital with abdominal pain of three weeks' duration, shortness of breath, and cough. X-ray showed a large gastric ulcer in the posterior wall of the greater curvature of the stomach. Cytological gastric washing was positive, and gave evidence of small atypical undifferentiated cells consistent with malignancy *(Figure 2)*. Tissue biopsy of the stomach indicated gastric mucosa with acute and chronic inflammation. Final diagnosis

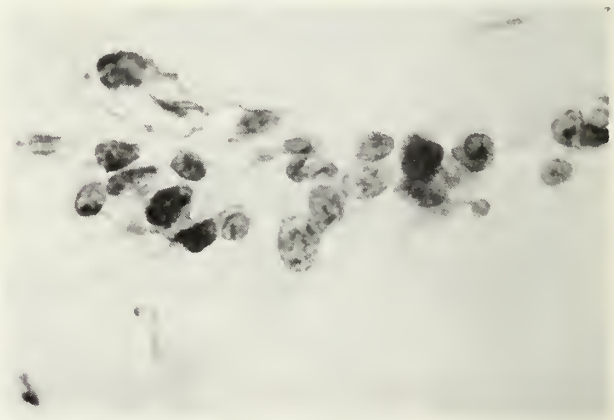

Figure 1. Poorly differentiated squamous type, malignant cells obtained from esophageal brush specimen (Case One).

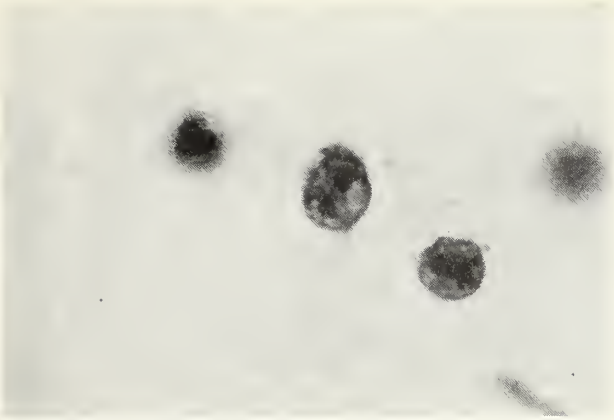

Figure 2. Single malignant histiocytic type, lymphoma cells collected from gastric washing (Case Two).

in this case was reticulum cell (histiocytic) lymphoma involving omentum, wall of lesser curvature of stomach, and tissue adjacent to greater curvature of stomach.

Case Three

An 84-year-old female was admitted to hospital with chronic constipation; she had noticed a change in bowel movements during the past six months. She had history of surgery for removal of polyps from the small intestine. Cytological brush of descending colon was positive, and demonstrated poorly differentiated adenocarcinoma cells *(Figure 3)*. Tissue biopsy of colon showed hyperplasia with slight atypia. Final diagnosis was adenocarcinoma of colon, Grade II.

Case Four

A 70-year-old female presented with complaints of epigastric pain radiating to back, loss of appetite, and diarrhea of three months' duration and marked jaundice for four weeks. She had lost 25 pounds in the past four months. Needle and wedge biopsy of the liver was obtained and T-tube drain was inserted in common duct. Matter aspirated from T-tube in common duct indicated the presence of adenocarcinoma cells *(Figure 4)*. Early secondary biliary cirrhosis was demonstrated by tissue biopsy (needle and wedge) of the liver. Regional lymph node biopsy gave evidence of reactive hyperplasia. Final diagnosis was intrahepatic bile duct carcinoma and biliary cirrhosis.

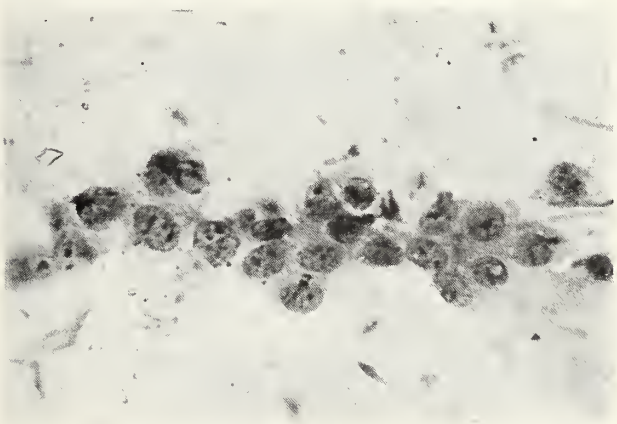

Figure 3. Poorly differentiated adenocarcinoma cells obtained from brush specimen of descending colon (Case Three).

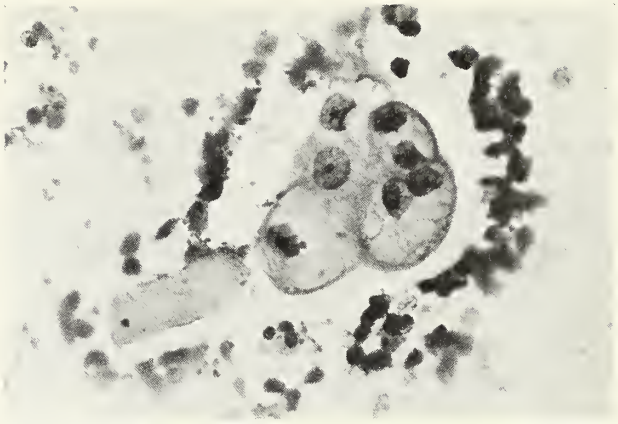

Figure 4. Well differentiated adenocarcinoma cells collected from drainage of T-tube placed in the common bile duct (Case Four).

While most cytology specimens are from the esophagus, stomach and colon, cytology should not be ignored in the diagnosis of carcinoma of the pancreas, ampulla of Vater, or gallbladder, as exemplified in Case Four.

Methods

Good cytology service includes careful specimen collection as well as specimen preparation, and is of paramount importance in gastrointestinal cytology. The development of the flexible fiberoptic endoscope during the past decade has greatly increased the cytology accuracy of the direct brush techniques. This, however, should not completely replace the washing techniques; rather, one method should complement the other. As Drake[5] points out, the direct brush technique requires a visible lesion to brush and, hence, one of the unique features of cytology—the ability to detect early unsuspected cancer or to confirm the diagnosis of cancer where the lesion is inaccessible to other diagnostic methods—is lost. Also, since fiberoptic endoscopy is not available in all hospitals, a good gastrointestinal cytology service can be established in any hospital with correct, careful collection procedures.

A successful gastrointestinal cytology service takes considerably more effort than an occasional lavage specimen casually collected when all other diagnostic

procedures have failed to produce a diagnosis. These random specimens are usually worthless, because they fail to contain any preserved cells.

The collection of gastrointestinal cytology specimens by specially trained personnel is a key to attaining the best results. These persons are usually laboratory personnel, cytotechnologists or other trained personnel, who handle the specimen at endoscopy or perform lavage techniques with or without the clinician in attendance. A registered nurse has been trained in our hospital to collect not only gastrointestinal cytology specimens, but all types of cytology specimens (including cervical and induced sputum specimens for both cytology and bacteriology). This person also handles the specimens at bronchoscopy. Successful gastrointestinal diagnostic services do exist, however, in hospitals where the attending physician or resident obtains the specimens, once they realize the importance of properly collected specimens.

Several solutions have been used in collecting gastrointestinal cytology specimens: chymotrypsin, Hank's and Ringer's solutions, normal physiological saline, and others. Most cytopathologists presently believe that normal saline is desirable: it is simple to obtain, easy to tolerate by the patients, and the results have been proven to be accurate.[5-7]

Lavage Techniques

The following methods for collection of lavage specimens are those of Raskin[7] or Frost,[8] with slight modifications.

Esophagus

The patient should fast from solid food for eight hours (usually from midnight) but may have water *ad lib.* until time of the procedure, to be properly hydrated. An iced multi-holed radiopaque #18 French Levine tube is passed orally to 2-3 cm below the previously ascertained area of a lesion with the patient in sitting position. With the tube tip in place, patient is asked to swallow normal saline solution while the tube is aspirated at the same time, until 250 cc has been collected in a flask set in ice (to minimize cellular degeneration). Upon completion of procedure, specimen should be sent immediately to laboratory for processing.

Stomach

Patient preparation is similar to that used for obtaining esophageal specimens. The tube is passed orally into the stomach to approximately 60 cm. It should be possible to recover overnight gastric residuum at this level. (Gastric specimens for bacteriology culture may be collected at the time a gastric washing for cytology is performed, thereby eliminating the necessity of passing the gastric tube twice, since cytology does not use the fasting specimen. However, specimens for chemical analysis cannot be obtained in combination with cytology washings.)

Collection of gastric cells from the stomach is usually done in two steps. The initial lavage helps remove the protective mucus coating the mucosa. Using the 100-ml syringe (preferably glass), 100 ml of isotonic saline solution is rapidly injected into the stomach. The fluid is repeatedly aspirated and reinjected into the stomach with force for 2-3 minutes. Emphasis is placed on a vigorous wash, since it is the force of the liquid against the gastric mucosa that aids in removing the mucus barrier and cellular material. This specimen is collected in a flask set in ice and sent immediately to laboratory for processing.

The second step of the gastric lavage consists of introducing 400-500 ml isotonic saline into the stomach while the patient is still in sitting position. The patient then lies down and is rotated from side to side. The upper abdomen is massaged, after which the fluid is collected in a flask set in ice and sent immediately to the laboratory.

Duodenum

Cytology of the duodenum may give evidence of cancer of the pancreas, ampulla of Vater or gallbladder, as well as the duodenum. The patient should fast from solid food for eight hours (usually from midnight) but may have water *ad lib.* until time of procedure. A special double lumen tube (Diamond or Dreiling) is used to permit the separation of the acid stomach contents from the alkaline duodenal secretions. Using Raskin's method of fast intubation,[7,9] with patient sitting in an upright position, the tube is passed orally to 45 cm. The patient is then placed on the right side and the tube is slowly passed to 85 cm, taking about 20 minutes to cover the 40 cm distance. If the tube is passed too rapidly, it may coil up in the stomach. The tip of the tube should be in the second portion of the duodenum to obtain the best pancreatic and gallbladder collection. Tube location should be confirmed by fluoroscopy.

With the patient on his back, the gastric and duodenal portions of the double lumen tube are connected to a constant vacuum pump with a pressure of 120 mm Hg. Gastric secretions are collected and discarded; the duodenal juices are collected in a flask immersed in ice. When satisfactory drainage has been established, secretin (dose: one unit/kg of body weight) is injected intravenously. The resultant pancreatic flow is collected for 30 minutes in three 10-minute samples. The samples are kept separate to ascertain the maximum pancreatic response. Each specimen should be chemically

analyzed for bicarbonates. At the end of the pancreatic collection period, a second intravenous injection of Pancreozymin is given, which causes the rapid emptying of the gallbladder, and the bile flow is collected for 10 minutes. Before withdrawal of the tube, the duodenum is washed with normal saline, using the same techniques as for esophageal lavage, and this specimen is also collected. The accuracy of diagnosis of cancer of the pancreas by duodenal lavage cytology is reported to be about 60 per cent,[10] which compares favorably with other diagnostic methods of this difficult site.

Colon

Adequate preparation of the patient is especially important in colon cytology; without adequate cleansing of the colon, cytology results are always poor.

Patient is given a laxative (castor oil or Ducolax) on the afternoon before the procedure. On the morning of the examination, cleansing enemas of 1000-2000 cc are given until there is no fecal material in the return—usually three or four enemas will suffice.

It is preferable that the diagnostic enemas be delayed several hours to allow for new malignant cells to exfoliate, but the diagnostic enema should always be given before a barium enema if one is scheduled the same day. With the patient in an inverted position on a standard proctoscope table, an Ewald tube is threaded through the 20 cm proctoscope. The scope is withdrawn; tube is left in place. Keeping the patient in a head-down position, 700-800 ml of physiologic saline is injected rapidly. The proctoscope table is then returned to normal position and the patient maneuvered from side to side; the abdomen is gently massaged to assist the movement of the saline solution to the cecal area. Fluid is collected through a strainer into a flask set in ice. Procedure may be repeated.

Fiberoptic Endoscopic Techniques

Three types of specimens can be obtained during fiberoptic endoscopy of the esophagus, stomach, duodenum or colon: washing, brushing, and tissue biopsy. The washing, if done, should be completed first. In our hospital, a Water Pik Oral Hygiene apparatus is used for this purpose. A polyethylene catheter is attached to the water pik and inserted into the stomach through the endoscope. The residual stomach contents are aspirated and discarded. Then, under direct vision, the jet stream of physiological saline, which issues from the tip of the tube, is used to wash away the excess mucus and dislodge cells from any area of the gastric mucosa. The fluid is aspirated directly into a flask immersed in ice to preserve the cells and is sent immediately to the laboratory for processing.

Once the washing is completed, a brush specimen is obtained. One must be careful with the brush technique to avoid drying of the cells when the brush is smeared on the slides. The brush should *not* be rubbed on the slide, but rather rotated quickly but firmly over a frosted slide. This will produce a thin layer of cells with minimum cellular distortion. The slide should then be placed immediately in a previously opened container of 95% alcohol fixative (spray fixatives should not be used on these slides). The brush is then agitated vigorously in a tube containing 2-3 cc of 2% Carbowax* fixative to remove any remaining specimen from the brush. This brush washing is an additional source of diagnostic cytology material. If no laboratory personnel are available, the endoscopist is requested to omit the preparation of the microscopic slides and wash the brush in the 2% Carbowax solution immediately after removing it from the endoscope. This specimen may be centrifuged and the sediment smeared on frosted slides and then air dried. The slides may be mailed, if needed. Carbowax preserves nuclear detail as well as prevents drying artifact. If Carbowax is not available, the brush may be washed in 50% alcohol fixative, but these slides cannot be air dried later.

After the cytology specimens are obtained, a direct vision biopsy can be performed with the biopsy forceps, and handled in the usual manner of any tissue. Afterwards, the biopsy forceps may also be washed in a tube of Carbowax fixative, as described for the brush specimen, and this specimen is also sent to the laboratory.

Summary

Gastrointestinal cytology should become a routine part of the workup of every cancer risk patient or every patient suspected of having gastrointestinal cancer, just as sputum and bronchoscopic brush cytology have become routine techniques in the suspected cases of lung cancer. The gastrointestinal cytology service should be a very active hospital service since there are more cases of cancer of the gastrointestinal tract than any other body system; over 171,000 new cases are expected in 1977.[11]

Realizing that there are still many hospitals without gastrointestinal cytology services, Dr. Howard Raskin,[7] an eminent gastroenterologist and one of the early pioneers in gastrointestinal cytology, urged in a recent publication that clinicians and cytologists alike "roll up their sleeves" and work together to provide their localities with good gastrointestinal cytologic techniques. This paper has been an attempt to demonstrate how this may be accomplished.

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* Carbowax 1540 (polyethylene glycol, a Union Carbide product) may be obtained from Fisher Scientific Co. Fixative prepared by adding 2 ml. of 1% Carbowax to 5 ml. of 50% ethyl alcohol.

Acknowledgment

Richard M. Skibba, M.D., Gastroenterology Department, St. Francis Hospital, Wichita, Kansas, assisted in the fiberoptic endoscopic procedures.

References

1. Klayman, M. I. *et al.:* Cytologic diagnosis of gastric cancer by chymotrypsin lavage. II Detection of early malignancy. *Gastroenterology* 29:854-862, 1955.

2. Cowan, W. K. and Shade, R. O. K.: Gastric cytology: Experience in a district hospital. *Acta Cytol. (Balt.)* 18:122-123, 1974.

3. Fukuda, T. *et al.:* Cytologic diagnosis of early gastric cancer by the endoscope method with fiberscope. *Acta Cytol. (Balt.)* 11:456-459, 1967.

4. Kasugai, T.: Evaluation of gastric lavage cytology under direct vision of the fiberscope employing Hank's solution as a washing solution. *Acta Cytol. (Balt.)* 12:345-351, 1968.

5. Drake, M.: *Gastric Cytology, Tutorials of Cytology.* Chicago, 1976.

6. Graham, R. M.: *Cytologic Diagnosis of Cancer.* Philadelphia, W. B. Saunders Co., 3rd ed., 1972, p. 411.

7. Raskin, H. and Pleticka, S.: *Gastrointestinal Tract—Manual of Cytotechnology.* American Society of Clinical Pathologists, Chicago, 1975, p. 131.

8. Frost, J. F.: *Clinical Cytopathology Techniques for Specimen Preparation.* Johns Hopkins University Hospital and School of Medicine, 1967, p. 45.

9. Raskin, H. F. *et al.:* Gastrointestinal cytology. *Arch. Surg.* 76:507, 1960.

10. Prolla, J. C. and Kirsner, J. B.: *Handbook and Atlas of Gastrointestinal Exfoliative Cytology.* Chicago, The University of Chicago Press, 1972, p. 45.

11. Silverberg, E.: Cancer statistics. *CA-A Cancer Journal for Clinicians* 27:35, 1977.

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All material which cannot be set in type, such as photographs, line drawings, graphs, charts, tracings (for preparation of tables, see below) must be mounted on white cardboard. All must be identified on the back as to figure number, author's name, and an arrow indicating top. Legends should be typed double spaced on a separate sheet of paper, limited to a maximum of 30 words.

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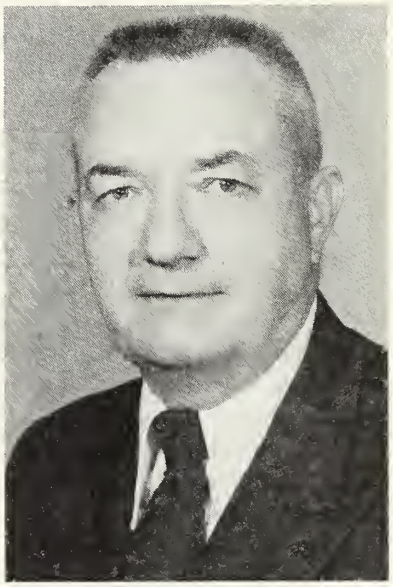
The President's Message

Preventive health studies have shown that region outreach systems, employing comprehensive ambulatory services and quality paramedical utilization by interdependent integrated centers under a responsive resource coordinator, may well play a part in your future. What appears to be unmet primary health care priorities may be alleviated by systematized transitional planning with total community analyses of feasible health care delivery objectives for that particular area.

Responsive supportive implementations by the Kansas Medical Society with compatible allied professionals can provide rational, balanced, functional incremental concepts and optional flexibility in programming an effective synchronized monitored time-phase to resolve these needs—which explains why Emerson Yoder has been appointed chairman of the ad hoc committee relating to the availability and distribution of primary health care. This committee is actively attempting to clear up the confusion surrounding the issue, as clearly stated above, and to correlate the actions of the numerous agencies and groups working to solve the problem.



Fraternally,

John D. Huff M.D.

President

Interview

Elbowing our way through the crowd at the airport loading gate, we finally confronted its focal point, J. Dolor Thrombus, executive director of the Commission for Continuing Patient Education.

"Mr. Thrombus, *Journal KMS* here," we said with professional aplomb. (This is a greeting usually reserved by the "in" people for announcing themselves on the phone, but since we can't use the phone any more, we have a lot of them saved up.) "May we have a few words with you?"

"By all means, Mr. Camus. Always glad to oblige the Fourth Estate," the man replied as the cigarette in his cyanotic lips conducted a symphony of rasps from deep within the barrel chest and the jaundiced eyes responded with a nystagmatic dance, "or is it First Estate and Fourth Amendment? Well, no matter."

"We're interested, Mr. Thrombus, in all this activity that's going on regarding continuing patient education. Can you update us?" (That's another of those terms. At least we didn't say, "At this point in time.")

"Well, of course, as you realize, continuing patient education isn't new. Patients have always worked to keep themselves abreast of new developments in available diseases. It's part of the noble tradition of service which has always made the patient one of the most honored and sought after persons in our society."

"Then you don't feel there has been any particular change?," we asked.

"Well, certainly there has been an effort to make the medical community better aware of the qualifications of its patients and their ability to meet the challenges of medical practice today. There was a time, you know, when the patient needed no more than the general medical knowledge he got from *Time* or the *Reader's Digest* —he would probably be carried off by the flux before he would need to resort to the more esoteric pathologies. But as medical knowledge grew and technology expanded, specialization became inevitable. It was simply not possible for one patient to have all the available diseases or tests. Consequently, we saw the movement toward concentration on one type of illness. This led, in turn, not only to longer preparation but the necessity for continuing study to keep up."

"Do you think this has contributed to the feeling physicians had that patients were trying to limit diseases so they could keep physicians under their control?"

"By all means," he rattled. "This is ridiculous, of course, since our only thought was for the benefit of the physicians by restricting the problems to a level they could grasp. But as you know, it did lead to a change in the patient-doctor relationship—sort of a loss of communication. Doctors couldn't understand why the patient always wanted to talk about only one problem. They thought the patient was losing sight of himself as a whole when patients were only trying to do a better job.

"Another aspect has been the patients' refusal to have doctors coming around the house at all hours of the day and night, snooping around and trying to find out how they lived. After seeing the way most of them looked in the middle of the night, patients became disillusioned —and anyway, with our mobile culture, most of them don't spend too much time at home. Perhaps it would have been better if patients had been more direct and just said they would rather go to the hospital emergency room anyway."

"Then it all comes back, you'd say, to this increased responsibility on the patient to provide a satisfactory level of medical problems for the whole medical community?"

"Exactly. For example, take the way the malpractice thing has gotten out of hand. Patients have started more suits because they felt it was their duty to help doctors improve themselves by pointing out their errors. But do you realize that physicians, even with all the expertise patients could muster, were winning the majority of suits—not to mention this"—he fought to control a surge of retching—"countersuit business? These

threaten the whole structure of the traditional patient-doctor relationship. Patients have naturally had to try to reestablish control over the doctors."

"So you see the CPE upsurge as a reflection of these medical *and* social changes going on about us?"

"By all means. As I said, continuing patient education isn't new, but I think it's safe to say that we're making the medical community more aware of just how well trained its patients are, how knowledgeable they are about the whole medical scene, and how conscientious they are in offering the very best in complaints. It's no longer enough to rely on Lawrence Lamb or Ted Van Dellen or the health articles. This tends to lead to a sort of cookbook type of symptomatology—and if the doctors read them too, they're on the lookout for those things in their patients. I'm sure you're aware"—this rather severely—"that some medical periodicals are even stooping to abstracting medical items from the lay press so doctors will have the unfair advantage of knowing ahead of time what the patient will complain of. Not cricket, you know, but in a way we take this as a tribute. It shows we've got them worrying and this, in turn, helps keep us on our toes."

"It must be a taxing job, this keeping up on all that's going on and keeping patients properly educated," we ventured.

"Oh, I tell you," he told us, "it's go-go-go all the time. IRS making patient study expenses deductible has made a big difference—although," he added hastily, "you musn't think this would affect the patient's sincerity in keeping himself educated. Oh, a few perhaps. After all, there are a few bad apples in every barrel, I always say, and we have them too. I know doctors have claimed we haven't done enough to keep our house in order, but it's not as easy as all that. Why, only last year, we put a patient on probation—tried to change symptoms on his doctor. But being a patient is more an art than a science, and complaints one patient would think legitimate another might refuse to touch. Doctors don't realize how difficult it is for a patient to keep his complaints in order. But at one time or another, every patient, seeing one who doesn't measure up, has had to say, 'There, but by the grace of Blue Cross, go I.' But I always say, before you judge a patient, walk a mile in his walker."

"That sort of thing could certainly lead to undermining the physician's faith in all patients if you don't get the bad eggs out of the basket," we said.

"Right on," he exclaimed. (Another one of those phrases.) "But at the same time, doctors are strange people, you'll admit. They'll sometimes stick with a totally incompetent patient, refuse to admit the patient's shortcomings, and never report their patient's bad behavior to us. But every closet has its skeletons, I always say. Anyway, we have really hit on the solution to an effective continuing patient education program."

"Tell me about it," we said, "I'm all agog."

He eyed me suspiciously. "I thought you said your name was Champus."

"I just mean I'm interested in your plans."

"Okay," he replied, somewhat mollified, "but we can't be too careful. Jack Anderson's been trying to infiltrate us and we have to watch out. Well, we realized we'd been putting all our eggs in the wrong barrel—or is it apples—well, never mind. The point is that we have been relying on all these columnists and articles and the heart and cancer people and the likes to keep patients informed. We discovered we'd really been missing the bloat, so to speak."

"We're all ears," we said, revving the tachometer on our aid up to the red zone.

"Well, Lears," he said, "it's just this. We've put our program in the hands of the travel agency people. We started modestly by using some of the medical centers in this country—Las Vegas—Aspen—Disney World. But let me tell you, the patient of today is cosmopolitan—none of this provincial stuff that got by a while back. Already we can hardly handle the requests from patients who want to learn while enjoying the soft breezes of Pago Pago or the history-laden atmosphere of Old London. Or brush up on their gripes while shooting elephants in Kenya—or succumb to the Gallic charm of Gay Paree where they can pick up all kinds of complaints from Gay Parisiennes. Today's patient can have his choice—South Molucca—Tierra del Fuego—Entebbe—anywhere his little old failing heart desires, we got a course set up."

"Remarkable," we exclaimed. "Where do you get your faculties?"

"No problem," was the reply. "Lots of our own people—patients whose names are known all over the country—right out of our great hospitals—are falling all over themselves for bids to be on our guest faculties. But sometimes our people don't go for these Ivory Tower types. Then we can always pick up some patients locally—they work cheap. And because nobody in this country ever heard of them before, doctors are mighty impressed with some of the complaints our people bring back.

"Right now I'm on my way to set up a two-week course on the Riviera—have to arrange casino schedules, vineyard side-trips, snorkeling, shopping—even post-course cruises so the patients can recover."

"What about the medical lectures?" we asked.

"Oh, yeah—well, we have a two-hour session one of the days—I forget which—but it's optional anyway.

They pay their money, they get the credit, I always say."

"This has been a fascinating and enlightening visit," we said as Thrombus moved toward the ramp. "I don't see why we couldn't use the same approach in educating physicians."

"Could be," he said as the stewardess helped him into the plane, "if they really want to learn. One thing, though,"—he raised his hand in an arthritic V salute—"if you do get mixed up in this business of making the arrangements, look out for a little Intourist guide in Omsk, name of Ludmilla. She'll bug you—if you know what I mean."—*D.E.G.*

Vox Dox

Vox Dox Editor:

Laetrile seems to be taking the same rocky road as abortion in becoming legalized. For centuries, since the time of Hippocrates, the legitimate medical profession stood firmly together in condemning abortion and only the quacks would do them. What is the attitude of today? The Supreme Court has legalized them. The government subsidizing them and the legitimate medical profession doing them—and according to rumors, getting rich.

I wonder how long it will take for the booing and hissing of the sincere and honest proponents of Laetrile to reach the same goals? How soon will the Supreme Court legalize it? How soon will the government be subsidizing it? How soon will the legitimate medical profession be utilizing it—and getting rich?

All this in that worn out cliché of personal rights and liberties.

A. S. Reece, M.D.
237 W. Main
Gardner, KS 66030

Vox Dox Editor:

I am afraid the "Genii" is out at the Pratt County Hospital; the Pratt County Junior College is just finishing a course for E.M.T. and E.M.I.T. personnel.

They parade around the hospital in white coats with a stethoscope around their neck, tycos in one pocket, tongue blade, flashlight, and thermometer in another. I have not seen one carrying an anoscope or proctoscope yet.

Every time you turn around one of them is under foot pushing, "Doctor, may I scrub on this operation or delivery"; "Doctor, when can I take a stitch." They are experts on the cardiac monitors.

They are well educated. They have a high school diploma and one term at junior college.

I have two sons who finished Kansas University Medical School in 1973. Even when they were sophomores at KUMC, I did not let them scrub and they did not ask to.

The worst part of the program is that these people watch the medical shows on television and try to dress and act like the characters on the show. After their tour at the hospital, they congregate at the local coffee house and tell all they have seen and heard at the hospital. There is no longer a patient-doctor confidence. I can learn all about another doctor's case from my waitress-patient from the coffee house.

After all their pushing, their final question is, "Doctor, when do you think we can get a license?" LICENSE FOR WHAT?

Cyril V. Black, M.D.
223 East 4th St.
Pratt, KS 67124

Vox Dox Editor:

Again this year, I am compiling a Biting Insect Summary and would appreciate any case reports of unusual allergic reactions, especially systemic (sneezing, wheezing, urticaria) to bites of insects; *i.e.*, mosquitoes, fleas, gnats, kissing bugs, bedbugs, chiggers, black flies, horseflies, sandflies, deerflies, etc.

I would like physicians to supply me with case reports of those patients who have had unusual reactions to such insects. Include in your reports the type of reactions (immediate and delayed symptoms), treatment, age, sex and race of the patient, the site of the bite(s), the season of the year, and any other associated allergies.

If skin tests and hyposensitization were instituted, I would like the report of both. Please note that it is the *biting* (not stinging) insect in which I am interested.

If you have found any insect repellent, local treatment or insecticides of value, I would also appreciate this.

Please send this information to the following address:

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Kansas Press Looks at Medicine

Crumbine's Legacy

The great work of Dr. Samuel J. Crumbine lives on.

The Crumbine legacy in the field of public health was emphasized anew this week when Washington announced a nationwide program to step up the immunization of school-age children.

A huge 38 per cent of those children at the national level lack adequate immunization. Kansas and Labette County by comparison put the country to shame.

Ninety to 92 per cent is the Labette County immunization figure for children and 90 per cent is the Kansas total. The national figure is 62 per cent.

The Crumbine tradition thus continues as the work of the state's first full-time public health officer is carried into the modern day.

Dr. Crumbine, a commanding figure in all of Kansas history, established standards that gave this state both a lasting record and reputation in public health.

Samuel J. Crumbine was a successful crusader against such early-day health hazards as the common drinking cup and the roller towel. His "swat the fly" campaign against that pestiferous insect gained national attention.

The State Department of Health and Environment under the direction of Dwight F. Metzler and various county health departments of which Labette's is one of the most effective are the modern bearers of the Crumbine torch. Their accomplishments add continued luster to the state's shining record.—*Parsons Sun,* April 9, 1977.

Fighting Back

The favorite argument of trial lawyers during the debates over medical malpractice insurance was that there wouldn't be any lawsuits if there wasn't neglect by physicians.

That may be true in most cases. But there are exceptions. Not all lawsuits have merit, although a physician may agree to a settlement simply to avoid the publicity of prolonged litigation.

Then, too, insurance companies are sometimes quick to settle out of court to avoid the expense of a court fight even though the evidence against a client is flimsy.

That could have happened in the case of a Fort Pierce, Fla., surgeon, sued by a 78-year-old patient who alleged malpractice because a steel rod implanted in his broken arm to help it heal was an inch too long.

The surgeon's insurance company wanted to settle out of court, but the doctor refused, contending he had not been negligent and that the suit was groundless. The insurance company declined to defend the suit and canceled the surgeon's malpractice insurance, forcing him to practice a year without protection.

But the surgeon stuck to his guns and his courage paid off. On the day the suit was to have gone to trial, the patient's attorney dropped the case.

Then the other shoe fell. The surgeon sued his former patient, his lawyer and his firm for malicious legal practice and won a $175,000 judgment.

The decision is a sign of the times. Doctors who have been victims in groundless malpractice suits are fighting back.

The verdict is also fair warning to lawyers that they must have reasonable cause to bring suit. The judge in the case admonished lawyers that they "must research the law and establish the truth of the facts to the extent that there is probable and reasonable cause for filing a lawsuit."

Amen. That should be chiseled in stone.—*Garden City Telegram,* June 1, 1977.

Letters to VOX DOX should be addressed to the Vox Dox Editor, Journal of the Kansas Medical Society, 1300 Topeka Avenue, Topeka, Kansas 66612.

Month in Washington

The nation's health shows steady improvement, according to a 25-year mortality survey by the National Center for Health Statistics.

Since 1950, the death rate from stroke and heart disease declined steadily in those aged 25 to 74, and deaths from tuberculosis, once a leading cause, now number 3,000 annually.

Dorothy Rice, the Director of the Center, told the Senate Health Subcommittee, "the spectacular decline in death rates from heart disease may well reflect improvement in medical care . . . there appears to have been no reduction in the incidence of heart disease during this period of sharply declining mortality."

The mortality rate from heart disease dropped 30 per cent in those aged 45 to 74, with the biggest gains coming in the last six years.

The death rate from stroke fell even more sharply during this period—a 50 per cent decline for the 45-64 age group and a 45 per cent reduction for those 65 to 74.

The aging of the entire U. S. population is demonstrated by the decline in the overall death rate. After leveling off in the 1960s, the death rate has steadily declined in the 1970s and reached an all-time low in 1975 of 8.9 deaths per 1,000 population.

Lung cancer had the biggest jump in death rate, doubling in men and going up four times in women since 1950.

The increase has offset declines in the death rate from cancer of the stomach, rectum, cervix, and uterus.

Infant mortality declined from 29.2 to 16.1 deaths per 1,000 live births, but the United States still ranks 15th in infant mortality.

The American Medical Association has told the House Commerce Subcommittee on Oversight and Investigations that a second opinion "is just that and nothing more—an opinion which is, by definition, subjective and it can never be anything other than that," asserted James H. Sammons, M.D., AMA Executive Vice President.

The Subcommittee, headed by Rep. John Moss (D—Calif.), has engaged in a running controversy with medical groups since it issued a report a year ago implying there are many thousands of deaths due to unnecessary surgery. The issue has stirred calls on Capitol Hill for required second opinions and suggestions for establishing criteria for determining under Medicare and Medicaid the necessity of surgical procedures and which should be elective.

Dr. Sammons said "such an approach is contrary to sound medical practice."

"It is not the disease which determines whether the procedure is an emergency but rather the condition of the patient and the time and circumstances under which the patient is seen by the physician," said Dr. Sammons. The AMA official said an approach based on disease categories with hard and fast rules which allow for no variation "is not medically sound or in the best interest of the patient."

The AMA supports efforts to control costs "that do not sacrifice the interests of the patient to the interest of some abstract cost-benefit ratio," Dr. Sammons testified.

Dr. Sammons' appearance before the Subcommittee was delayed for a week because of a dispute over the timing of delivery of AMA testimony to the Subcommittee. Despite strong words that have been exchanged between Subcommittee Chairman Moss and the AMA over the unnecessary surgery issue, Moss did not level any broadside charges at Dr. Sammons' testimony. However, Reps. Anthony Moffett (D-Conn.), Henry Waxman (D-Calif.), and Andrew Maguire (D-N.J.) had sharply critical remarks about the AMA.

Much of the debate centered on the frequency of hysterectomies in this country. Waxman asked if it is "a fad operation"? Moffett said the AMA had displayed "callousness, chauvinism and insensibility" to surgery on women. Maguire shouted that there is "something wrong" because the AMA "fails to address the issue" of people dying unnecessarily from surgery.

Dr. Sammons vehemently denied the charges. The AMA has no desire to protect the guilty and the incompetent, he asserted. The question of what is necessary or unnecessary, what is wrong, must be decided at the peer review level, Dr. Sammons said. "I am certain in my own mind that there is surgery performed every day that I would not personally agree with, but that is true of all aspects of every profession," said the AMA official. The number of such cases would be very small, he stressed.

A dash of scholarly cold water was thrown on the flaring dispute in Congress over whether there is too much surgery performed in this country.

A news conference was held in Washington, D. C. by the Office of Health Policy Information at the Harvard School of Public Health to introduce a new book,

Costs, Risks and Benefits of Surgery. One of the studies in the book said that present costs and risks of surgery "appear to be equal, or nearly equal to benefits."

Elective hysterectomy, a subject which has drawn much fire from members of the House Commerce Subcommittee on Investigations, raises the question of quality-of-life benefits, the book states. "It cannot be assumed that easy answers can be provided," it adds. "The individual patient may consider that the quality-of-life benefits of hysterectomy are sufficient to offset attendant risks; indeed, based on the extremely high hysterectomy elective rates reported for physicians' wives, who should be reasonably informed 'consumers,' it seems likely that many women will make this choice."

However, the books goes on, if and when society agrees to make "necessary" medical care available to every citizen as a right, "at issue will be the allocation of public funds for a procedure when it appears to be more of a convenience or luxury than a necessity, and in competition with growing demands for funds to pay for other medical procedures, many of which may present stronger claims."

The book was written by Benjamin Barnes, M.D., Associate Professor of Surgery at Harvard Medical School; John Bunker, M.D., Professor of Anesthesia and of Family Community and Preventive Medicine at Stanford University; and Frederick Mosteller, Ph.D., Chairman of the Department of Biostatistics at the Harvard School of Public Health. All three authors were present at the news conference as was Howard Hiatt, M.D., Dean of the Harvard Public Health School, who wrote the foreword to the book.

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Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spironolactone is used concomitantly, determine serum K^+ frequently; both can cause K^+ retention and elevated serum K^+. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effect may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine.

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Precautions: Use cautiously in patients with impaired renal or hepatic function, severe allergy, bronchial asthma; in glucose-6-phosphate dehydrogenase-deficient individuals in whom dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

Adverse Reactions: *Blood dyscrasias* (agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia); *allergic reactions* (erythema multiforme, skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis); *gastrointestinal reactions* (nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis); *CNS reactions* (headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia); *miscellaneous reactions* (drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon). Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia as well as thyroid malignancies in rats following long-term administration. Cross-sensitivity with these agents may exist.

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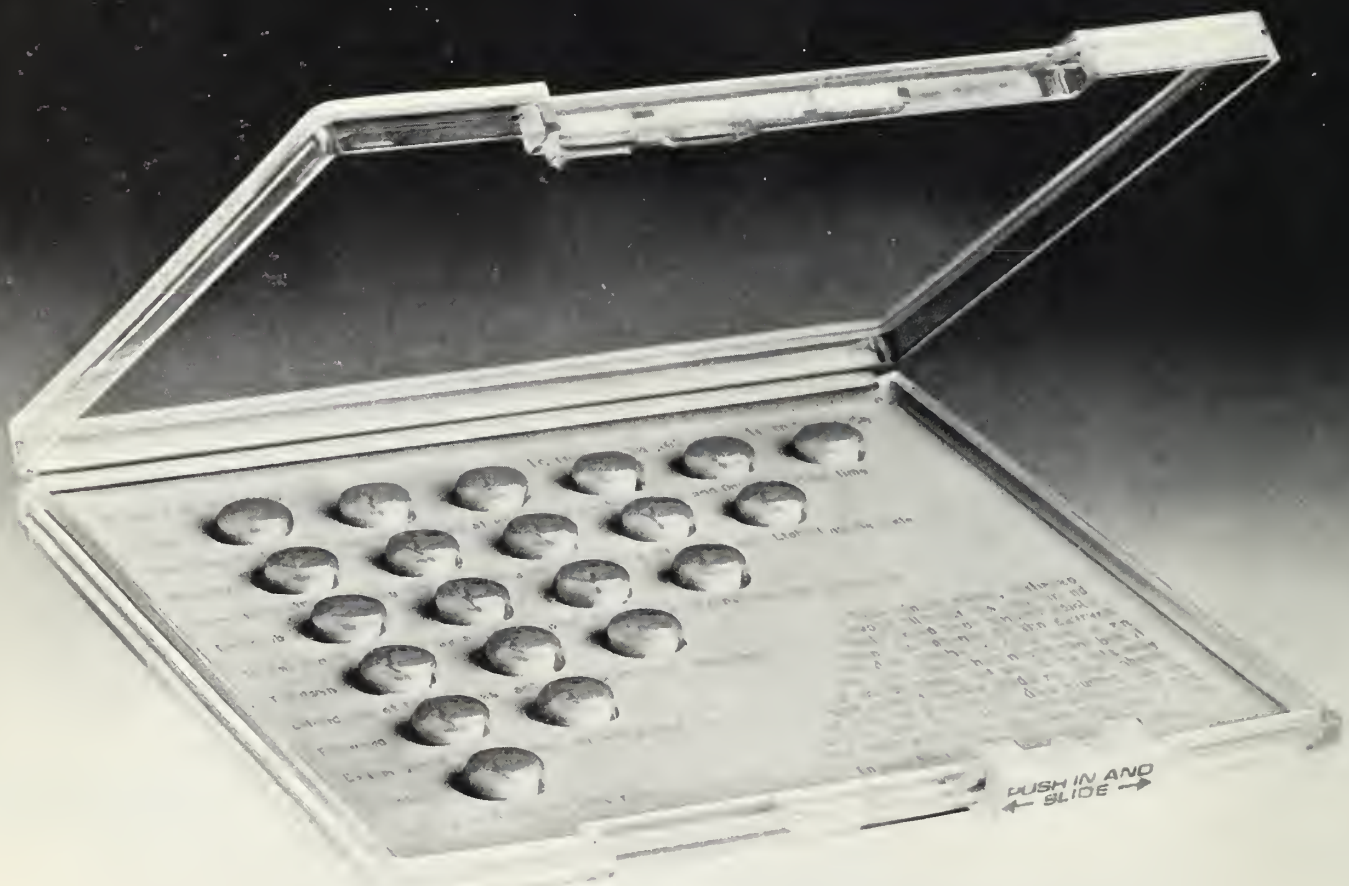

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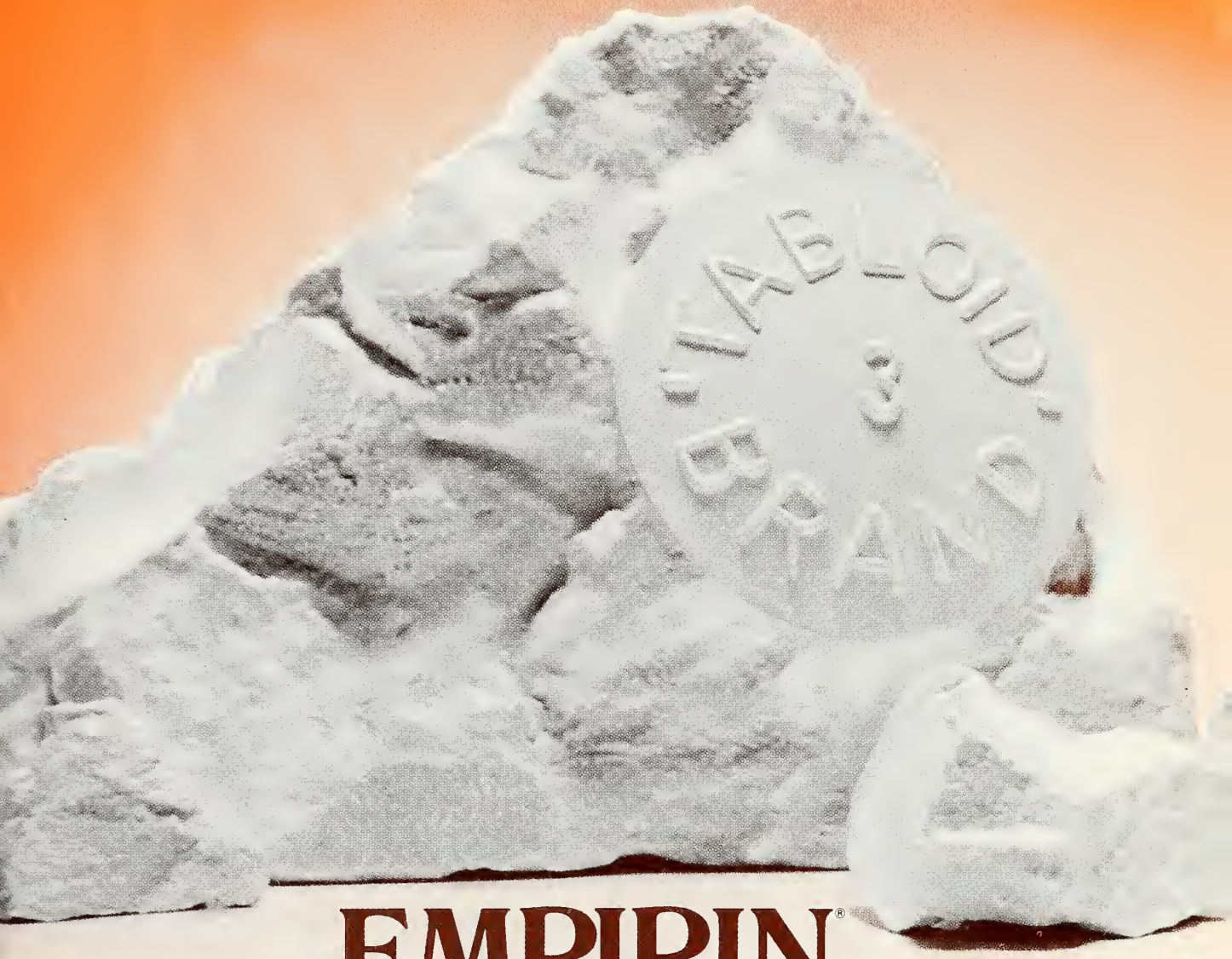

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EMPRACET c̄ Codeine #3. New look. New name. Psychologically more acceptable to your patients. And with CIII prescribing convenience for you—up to 5 refills in 6 months at your discretion (where state law permits), and telephone prescribing permissible in most states.

*Czapek EE: *JAMA 235*:636, 1976.

EMPIRIN® COMPOUND with CODEINE (III)

Contraindications: Hypersensitivity to aspirin, phenacetin, caffeine or codeine.

Warnings: See **Warnings** below.

Precautions: ***Allergic:*** Precautions should be taken in administering salicylates to patients with active peptic ulcers and those with known allergies; patients with nasal polyps are especially likely to be hypersensitive to the medication. SEE ADDITIONAL PRECAUTIONS BELOW.

Adverse Reactions: Most frequent adverse reactions are listed below. Some patients taking salicylates develop nausea and vomiting. Hypersensitivity may be manifested by skin rash or anaphylactic reaction. With these exceptions, most side effects occur after repeated administration of large doses; include headache, vertigo, ringing in ears, mental confusion, drowsiness, sweating, thirst, nausea, and vomiting. Occasional patients experience gastric irritation and bleeding with aspirin.

Phenacetin side effects usually result from overdosage. Cyanosis, acute hemolytic anemia, skin lesions, and fever may appear with toxic doses. Continued abuse may lead to renal damage.

Caffeine side effects almost always result from overdosage, include insomnia, restlessness, excitement, tense muscles, and diuresis. Tachycardia and extra systoles may be observed.

EMPRACET™ with Codeine Phosphate, 30 mg, No. 3 (III)

Contraindications: Hypersensitivity to acetaminophen or codeine.

WARNINGS, PRECAUTIONS, ADVERSE REACTIONS AND DRUG INTERACTIONS COMMON TO BOTH PRODUCTS

Warnings: ***Drug dependence.*** Codeine can produce drug dependence of the morphine type and may be abused. Dependence and tolerance may develop upon repeated administration; prescribe and administer with same caution appropriate to oral narcotics. Subject to the Federal Controlled Substances Act.

Usage in ambulatory patients. Caution patients that these products may impair mental and/or physical abilities required for performance of potentially hazardous tasks such as driving a car or operating machinery.

Interaction with other CNS depressants. Patients receiving other narcotic analgesics, general anesthetics, phenothiazines, tranquilizers, sedative-hypnotics, or other CNS depressants (including alcohol) may exhibit additive CNS depression; when used together reduce dose of one or both.

Usage in Pregnancy. Safe use is not established. Should not be used in pregnant patients unless potential benefits outweigh possible hazards.

Precautions: ***Head injury and increased intracranial pressure.*** Respiratory depressant effects of narcotics and their capacity to elevate cerebrospinal fluid pressure may be markedly exaggerated in the presence of head injury, other intracranial lesions or a pre-existing increase in intracranial pressure. Narcotics produce adverse reactions which may obscure the clinical course of patients with head injuries.

Acute abdominal condition. These products or other narcotics may obscure the diagnosis or clinical course of acute abdominal conditions.

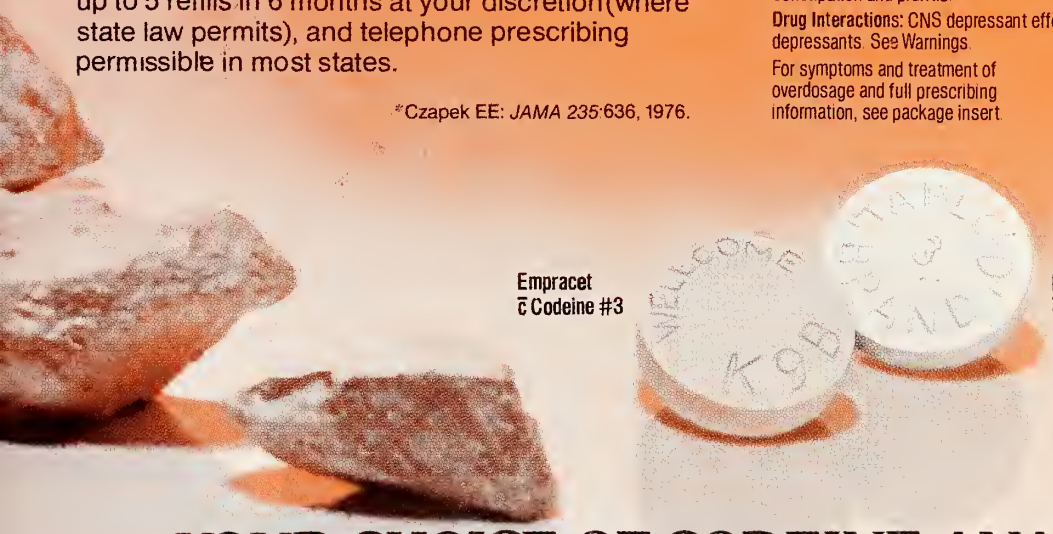
Special risk patients. Administer with caution to certain patients such as elderly or debilitated patients and those with severe impairment of hepatic or renal function, hypothyroidism, Addison's disease, or prostatic hypertrophy or urethral stricture.

Adverse Reactions: Most frequently include lightheadedness, dizziness, sedation, nausea, and vomiting; more prominent in ambulatory than in nonambulatory patients; some may be alleviated if patient lies down; others include: euphoria, dysphoria, constipation and pruritis.

Drug Interactions: CNS depressant effect may be additive with that of other CNS depressants. See Warnings.

For symptoms and treatment of overdosage and full prescribing information, see package insert.

Wellcome | **Burroughs Wellcome Co.** Research Triangle Park North Carolina 27709



Empracet c̄ Codeine #3

Empirin Compound c̄ Codeine #3

YOUR CHOICE OF CODEINE ANALGESICS FROM BURROUGHS WELLCOME CO.

COLBY PROCLAIMS WOMAN SUFFRAGE

Signs Certificate of Ratification at His Home Without Women Witnesses.

MILITANTS VEXED AT PRIVACY.

Wanted Movies of Ceremony, But Both Factions Are

WASHINGTON, Aug. 26, 1920—[illegible] Wom-

Social Security Bill Is Signed; Gives Pensions to Aged, Joble

Roosevelt Approves Message Intended to Benefit 30,000, Persons When States Adopt Cooperating Laws—He Ca the Measure 'Cornerstone' of His Economic Program.

WASHINGTON, Aug. 14, 1 The Social Security Bill, prov a broad program of unemploy insurance and old age pens and counted upon to benefit 20,000,000 persons, became la day when it was signed by I dent Roosevelt in the presen those chiefly responsible for ting it through Congress.

Mr. Roosevelt cal[illegible] mea "the cornerstone [illegible] stru which is being [illegible] me[illegible]s comple[illegible] [illegible]

SENATE APPROVES 18-YEAR OLD VOTE IN ALL ELECTIONS

Amendment to Constitution is Sent to House, Where Passage is Expected

WASHINGTON, March 10, 1971—The Senate approved today, 94 to 0, and sent to [illegible]

TRUMAN CLOSES TED NATIONS CONFEREN ITH PLEA TO TRANSLATE CHARTER INTO DEEDS

NEW WORLD HOPE

President Hails 'Great Instrument of Peace,' Insists It Be Used

HISTORIC LANDMARK

Meeting Gives Standing Ovation as Executive Pictures Peace Gain

"If we fail to use it," he declared to the solemn final meeting of the delegates, 'we shall betray all of those who have died in order that we might meet here in freedom and safety to create it.'

"If we seek to use it selfishly—for the advantage of any one nation or any small group of nations—we shall be equally guilty of that betrayal."

Fervent Interpolation

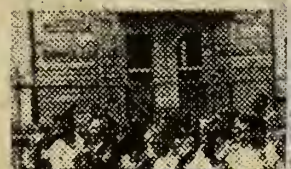
The President, speaking in the auditorium of the War Memorial Opera House, built in memory of sons of the Golden Gate city who gave their lives in the first World War, in which he himself served, seemed to give unconscious expression to the solemn feeling of the occasion when, at the outset of his speech, he interpolated the words, half a hope, half a prayer:

"Oh, what a great day this can be in history!"

Just before the plenary session

OL SIGNE the Draf Ends Nov

WASHINGTON, Jan. 27, 1973—"With the signing of the peace agreement in Paris today, and after receiving a report from the



PATIENT PACKAGE INSERTS: A CONCEPT WHOSE TIME HAS COME?

The consumer's right to know is an irreversible and desirable trend of the Seventies. It extends, and properly, to a patient's right to know more about his or her prescription medications. One way, gaining favor, is through patient package inserts. Wisely-prepared and properly distributed when medically indicated, they could markedly improve patient knowledge and drug therapy—laudable goals by anyone's standards.

The PMA endorses these goals and will work with government, the health professions and consumers to achieve them.

The Advantages

The concept holds promise of benefits: better patient understanding of the product prescribed, better adherence to the treatment plan, and more awareness of possible side reactions.

Every doctor has had patients who fail to finish antibiotic regimens because they feel better. Some patients assume that if one tranquilizer or analgesic is good, two may be twice as good. Still others fail to report dizziness while on antihypertensive therapy —and so on.

Problems like these might arise less often if the patient received written information in addition to verbal instructions. Some studies suggest that patients are more receptive to such materials, and they more often understand the verbal instructions and follow them, when inserts are used.

The Disadvantages

There are also some potential problems. Obviously, the inserts must be clearly phrased, without extraneous or complex detail. How much information is enough? How can it be kept current? Should all patients receive the same information? Should inserts be included with all drugs? Should only potential problems be listed or are patients better off with a "fair balance" presentation that describes usefulness as well as drawbacks?

These and similar questions require answers, since model inserts have yet to be properly developed and tested. Despite the need for these studies, the FDA is proceeding prematurely with inserts on selected products. We think the Congress is the only place where the matter can be given the proper legal status and direction, particularly since it represents a conceptual change in the legal, medical and social framework of the nation's prescription drug information system.

The Solution

The PMA believes that carefully-devised pilot studies of various kinds of inserts are needed. They should be developed and implemented with full participation by doctors, pharmacists, consumers, communications experts and the drug industry. Such studies will provide reliable pathways to follow, so that inserts will be useful aids to medical practice.

And particularly we think that you should be closely involved in this debate and in these studies and decisions. Otherwise, people with less experience and qualifications may control the purposes, content and use of a tool with considerable promise for improved patient care. It could make a difference in your practice tomorrow, and more importantly, in the health of your patients.

PMA
THE PHARMACEUTICAL MANUFACTURERS ASSOCIATION
1155 FIFTEENTH ST., N. W., WASHINGTON, D. C. 20005

A character all its own.

Valium (diazepam) is a benzodiazepine with a character all its own. Pharmacologically, it has been described as more potent mg-per-mg than other available anxiolytic benzodiazepines. Pharmacokinetically, only Valium provides active *diazepam* as well as the active metabolites 3-hydroxydiazepam, desmethyldiazepam and oxazepam.

But the individual character of Valium is even more apparent clinically than pharmacokinetically. And far more significant. That's because of the patient response obtained with Valium. A response which brings a calmer frame of mind. A response which has a pronounced effect on the somatic symptoms of anxiety, particularly muscular tension. A response which helps the patient feel more like himself again because of the way Valium reduces the overwhelming symptoms of anxiety and psychic tension.

Another important aspect of the clinical character of Valium is safety. Though drowsiness, ataxia and fatigue are possible, these and more serious side effects are rarely a problem. Of course, as with all CNS-acting drugs, patients taking Valium should be cautioned against driving, operating dangerous machinery or the simultaneous ingestion of alcohol.

Unquestionably, many psychotherapeutic agents, including other benzodiazepines, have antianxiety effects. But one fact remains: you get a certain kind of patient response with Valium. It's a response you want. A response you know. A response you trust as part of your overall management of anxiety and psychic tension.

Valium® (diazepam) IV

2-mg, 5-mg, 10-mg scored tablets

a prudent choice in psychic tension and anxiety

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome; convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma, may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

***Usage in Pregnancy:* Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice, periodic blood counts and liver function tests advisable during long-term therapy.

ROCHE

Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

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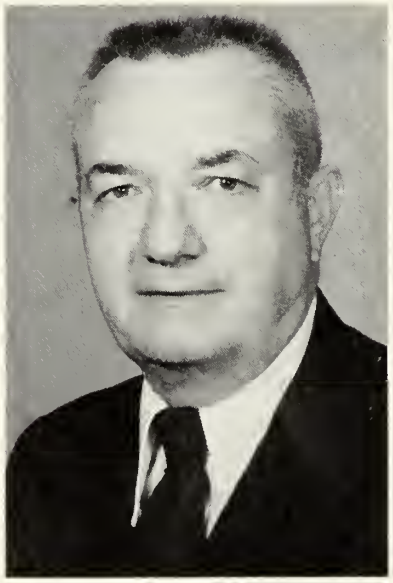

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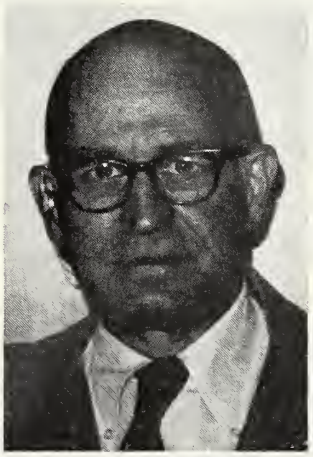

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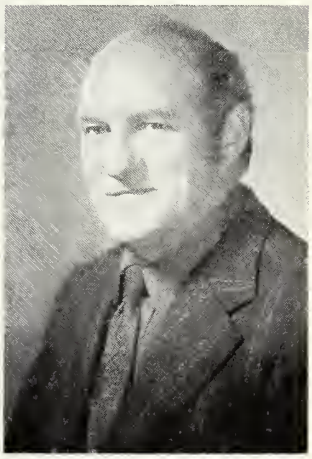

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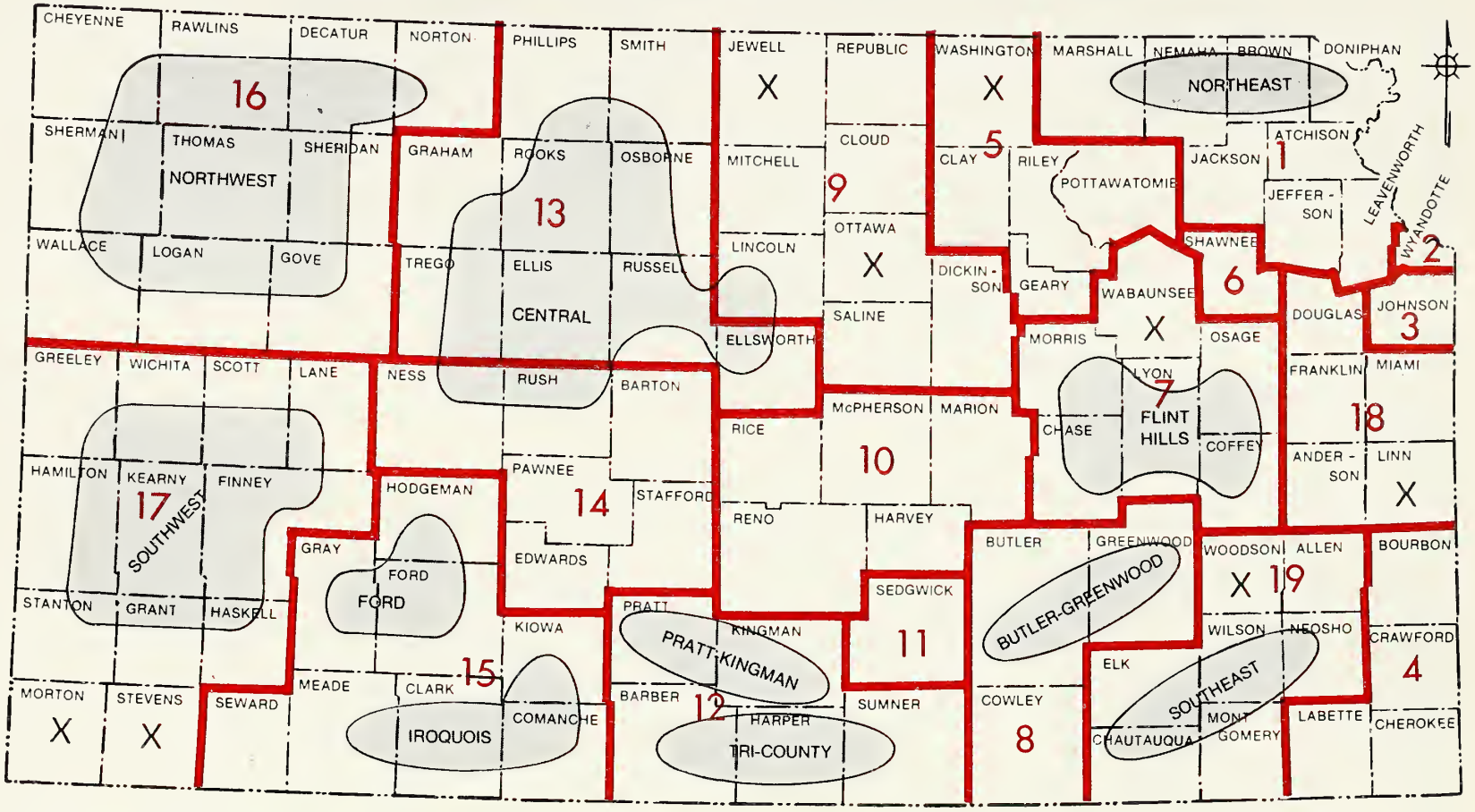

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Shaded areas designate multi-county societies.

All others are single county societies.

X—No organized county society.

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Butler-Greenwood—4th Monday—R. W. Proctor, El Dorado, President; D. W. Anderson, Augusta, Secretary; J. L. Richardson, Arkansas City, Councilor; N. H. Overholser, El Dorado, Alternate.

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Pottawatomie—ON CALL—Bill L. Braden, Wamego, President; Laurence A. Clark, Wamego, Secretary; R. H. O'Donnell, Clay Center, Councilor; K. M. Boese, Manhattan, Alternate.

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Rice—ON CALL—C. V. Wolf, Lyons, President; R. A. Siemens, Lyons, Secretary; Herbert Fransen, Newton, Councilor.

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Seward—3RD TUESDAY—J. W. Koons, Liberal, President; J. D. Reese, Liberal, Secretary; E. R. Williams, Dodge City, Councilor; N. D. Harris, Liberal, Alternate.

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Stafford—4TH FRIDAY—R. P. Quackenbush, St. John, President; C. Everett Brown, Stafford, Secretary; Edward L. Jones, Great Bend, Councilor.

Wyandotte—3RD TUESDAY—F. G. Bichlmeier, Kansas City, President; R. P. McCarthy, Kansas City, Secretary; R. P. Hudson, Kansas City, Councilor.

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Hospitals—State Institutions—Poison Control Centers—Home Health Agencies Genetic Counseling Centers

Abilene—Memorial Hospital—913/263-2100
Anthony—Anthony Hospital & Clinic—316/842-5111
Arkansas City—Arkansas City Mem. Hospital—316/442-2500
Ashland—Ashland District Hospital—316/635-2241
Atchison—Atchison Hospital—913/367-2131
Attica—Attica District Hospital—316/254-7253
Atwood—Rawlins County Hospital—913/626-3211
Augusta—Augusta Medical Complex—316/775-5421
Baxter Springs—Baxter Memorial Hospital—316/856-2314
Belleville—Republic County Hospital—913/527-2255
Beloit—Mitchell Co. Community Hospital—913/738-2266
Bucklin—Bucklin District Hospital—316/826-3211
Burlington—Coffey County Hospital—316/364-2121
Caldwell—Hospital District #1—316/845-6492
Caney—Caney Municipal Hospital—316/879-2182
Cedar Vale—Cedar Vale Regional—316/758-2266
Chanute—Neosho Memorial Hospital—316/431-4000
Clay Center—Clay County Hospital—913/632-2144
Coffeyville—Coffeyville Memorial Hospital—316/251-1200
Colby—St. Thomas Hospital—913/462-3335
Coldwater—Comanche County Hospital—316/582-2144
Columbus—Maude Norton Memorial City Hospital—316/429-2545
Concordia—St. Joseph's Hospital—913/243-1234
Council Grove—Morris County Hospital—316/767-5151
Dighton—Lane County Hospital—316/397-5321
Dodge City
Dodge City Regional—316/225-9050
ElDorado—Susan B. Allen Memorial Hospital—316/321-3300
Elkhart—Morton County Hospital—316/697-2141

Ellinwood—Ellinwood District Hospital—316/564-2548
Ellsworth—Ellsworth County Veterans Memorial Hospital—913/472-3111
Emporia
Newman Memorial Hospital—316/342-7120
St. Mary's Hospital—316/342-2450
Eureka—Greenwood County Hospital—316/583 7451
Fort Scott—Mercy Hospital—316/223-2200
Fredonia—St. Margaret's Mercy Hospital—316/378-2121
Garden City—St. Catherine Hospital—316/275-6111
Gardner—Gardner Comm. Med. Center—913/884-8711
Garnett—Anderson County Hospital—913/448-3131
Girard—Hospital District #1, Crawford County—316/724-8291
Goessel—Mennonite Bethesda Hospital—316/367-2291
Goodland—NW Kansas Medical Center—913/899-3625
Great Bend—Central Kansas Medical Center—316/792-2511
Greensburg—Kiowa County Memorial Hospital—316/723-2161
Halstead—Halstead Hospital—316/835-2247
Hanover—Washington County District #1—913/337-2214
Harper—Harper County District #5—316/896-7324
Hays
Hadley Regional Med. Center—913/628-8251
St. Anthony Hospital—913/625-7301
Herington—Herington Municipal Hospital—913/258-2207
Hiawatha—Hiawatha Community Hospital—913/742-2131
Hill City—Graham County Hospital—913/674-2121
Hillsboro—Salem Hospital—316/947-3114
Hoisington—Hoisington Lutheran Hospital—316/653-2114
Holton—Holton City Hospital—913/364-2116
Horton—Horton Community Hospital—913/486-2142
Hoxie—Sheridan County Hospital—913/675-3281
Hugoton—Stevens County Hospital—316/544-8511
Hutchinson—Hutchinson Hosp. Corp.—316/663-6811
Independence—Mercy Hospital—316/331-2200
Iola—Allen County Hospital—316/365-3131
Jetmore—Hodgeman County Hospital—316/357-8361
Johnson—Stanton County Hospital—316/492-6250
Junction City—Geary Community Hospital—913/238-4131
Kansas City
Bethany Hospital—913/621-6600
Prov.-St. Margaret Health Ctr.—913/334-2500
Univ. of Ks. Med. Ctr.—913/588-5250
Kingman
Kingman Community Hospital—316/532-3147
Kinsley—Edwards County Hospital—316/659-3621
Kiowa—Kiowa District Hospital—316/825-4130
LaCrosse—Rush County Hospital—913/222-2545
Lakin—Kearney County Hospital—316/355-7111
Larned
St. Joseph Memorial Hospital—316/285-3161
Lawrence
Lawrence Memorial Hospital—913/843-3680
Watkins Memorial Hospital—913/843-4455
Leavenworth
Cushing Memorial Hospital—913/682-8000
St. John's Hospital—913/682-3721
Leoti—Wichita County Hospital—316/375-2233
Liberal—Southwest Medical Center—316/624-1651
Lincoln—Lincoln County Hospital—913/524-4403
Lindsborg—Lindsborg Community Hospital—913/227-3308
Little River—Hoffman Memorial Hospital—316/897-6241
Lyons—Hospital District #1, Rice County—316/257-2348
Manhattan
Lafene Student Health Ctr., KSU—913/532-6544
Memorial Hospital—913/776-3300
St. Mary Hospital—913/776-3322
Mankato—Jewell County Hospital—913/378-3137
Marion—St. Luke Hospital—316/382-2177
Marysville—Community Memorial Hospital—913/562-2311
McPherson—McPherson County Hospital—316/241-2250
Meade—Meade District Hospital—316/873-2141
Medicine Lodge—Medicine Lodge Memorial Hospital—316/886-5631
Minneapolis—Ottawa County Hospital—913/392-2122
Minneola—Minneola District Hospital—316/885-4264
Moundridge—Mercy Hospital—316/345-6391
Neodesha—Wilson County Hospital—316/325-2611
Ness City—Ness County District #2—913/798-2291
Newton
Axtell Christian Hospital—316/283-5200
Bethel Deaconess—316/283-2700

Prairie View Hospital—316/283-2400
Norton
Norton County Hospital—913/927-3351
Valley Hope Alcoholic Ctr.—913/927-5101
Oakley—Logan County Hospital—913/672-3211
Oberlin—Decatur County Hospital—913/475-2201
Olathe
Mid-Continent Psychiatric—913/782-4282
Olathe-Community Hospital—913-782-1451
Onaga—Community Hospital—913/889-4274
Osborne—Osborne County Memorial Hospital—913/346-2121
Oswego—Oswego Hospital—316/795-4423
Ottawa—Ransom Memorial—913/242-3344
Paola—Miami County Hospital—913/294-2327
Parsons
Labette Co. Medical Center—316/421-4880
MKT Railroad Employees' Hosp.—316/421-2700
Phillipsburg—Phillips County Hospital—913/543-5226
Pittsburg—Mt. Carmel Medical Center—316/231-6100
Plainville—Plainville Rural Hospital—913/434-4553
Pratt—Pratt County Hospital—316/672-6476
Quinter—Gove County Hospital—913/754-3341
Ransom—Ness County Dist. #1—913/731-2231
Russell—Russell City Hospital—913/483-3131
Sabetha—Sabetha Community Hospital—913/284-2121
Saint Francis—Cheyenne County Hospital—913/332-2104
Saint John—St. John District Hospital—316/549-3255
Salina
Asbury Hospital—913/827-4411
St. John's Hospital—913/827-5591
Satanta—Satanta District Hospital—316/649-2200
Scott City—Scott County Hospital—316/872-2121
Sedan—Sedan City Hospital—316/725-3115
Seneca—Seneca Hospital—913/336-2181
Shawnee Mission—Shawnee Mission Med. Ctr.—913/384-0900
Smith Center—Smith County Memorial Hospital—913/282-6661
Spearville—Spearville District Hospital—316/385-2661
Stafford—Stafford District Hospital—316/234-5221
Syracuse—Hamilton County Hospital—316/384-7461
Topeka
Memorial Hospital—913/233-2361
The Menninger Foundation—913/234-9566
St. Francis Hospital—913/354-8411
Stormont-Vail Hospital—913/234-9961
Tribune—Greeley County Hospital—316/376-4222
Ulysses—Bob Wilson Memorial Hospital—316/356-1266
WaKeeney—Trego County-Lemke Memorial Hospital—913/743-2134
Wamego—Genn Hospital—913/456-2295
Washington—Washington County Hospital—913/325-2211
Wellington
St. Luke's Hospital—316/326-7451
Wellington Hosp. & Clinic—316/326-3353
Westmoreland—Dechairo Hospital—913/224-3311
Wichita
E. B. Allen Memorial—316/268-8211
Osteopathic Hospital—316/943-9353
St. Francis Hospital—316/262-6211
St. Joseph Medical Center—316/685-1111
Salvation Army Booth Mem. Hosp.—316/363-6174
Sedgwick County Hospital—316/268-8421
Wesley Medical Center—316/685-2151
Winchester—Jefferson County Memorial Hospital—913/774-4340
Winfield—William Newton Memorial Hospital—316/221-2300

STATE INSTITUTIONS

Atchison—Kansas Children's Receiving Home—913/367-6590
Beloit—Girls' Industrial School—913/738-3571
Chanute—SE Kansas Tuberculosis Hospital—316/431-9500
Larned—Larned State Hospital—316/285-2131
Norton—Norton State Hospital—913/927-3301
Osawatomie—Osawatomie State Hospital—913/755-3151
Parsons—Parsons State Hospital & Training Center—316/421-6550
Topeka
Youth Center at Topeka—913/296-7709
Kansas Neurological Institute—913/296-5301
Topeka State Hospital—913/296-4596
Winfield—Winfield State Hospital & Training Center—316/221-1200

VETERANS AND MILITARY HOSPITALS

Ft. Leavenworth—Munson Army Hospital—913/684-3241
Ft. Riley—Irwin U. S. Army Hospital—913/239-3663
Topeka
Veterans Administration Hospital—913/233-6411

Wadsworth—Veterans Administration Hospital—913/682-2000
Wichita
USAF Hospital—316/685-9254
Veterans Administration Hospital—316/685-2221

POISON CONTROL CENTERS

Atchison—Atchison Hospital—913/367-2131
Dodge City—Trinity Hospital—316/483-8133
Emporia—Newman Memorial Hospital—316/342-7120
Fort Scott—Mercy Hospital—Day: 316/223-3100; Night: 316/223-2200
Great Bend—Central Kansas Medical Center—Day: 316/793-3523; Night: 316/792-2511
Hays—Hadley Memorial Hospital—Day: 913/625-2515, Ext. 237; Night: 913/625-3441
Kansas City
University of Kansas Medical Center—913/588-6633
Bethany Hospital—913/621-6600
Lawrence—Lawrence Memorial Hospital—Day: 913/843-3680 or 842-4477; Night: 913/843-5874
Parsons—Labette County Medical Center—316/421-4880
Salina—St. John's Hospital—913/827-5591, Ext. 222
Topeka—Stormont-Vail Hospital—913/234-9961, Ext. 161 or 150
Wichita—Wesley Hospital—316/685-2151, Ext. 377

Kansas Poison Control Information Center:
Kansas Department of Health, Food and Drug Division, Topeka—Evan Wright, Director—913/862-9360, Ext. 541

HOME HEALTH AGENCIES

Anderson County Hospital, Garnett 60032—913/-448-3131
Barton County Health Dept., Courthouse, Great Bend 67530—316/793-7879
Butler-Greenwood County Health Dept., Courthouse, El Dorado 67042—316/321-3400
Clay County Hospital, Clay Center 67432—913/632-2144
Cloud County Health Dept., Courthouse, Concordia 66901—913/243-3588
Coffey County Heath Dept., Courthouse, Burlington 66839—316/364-5831
Douglas County Visiting Nurses' Association, 342 Missouri St., Lawrence 66044—913/843-3738
Ellis County-St. Anthony Hospital, Hays 67601—913/625-2556
Ellsworth County Health Dept., Courthouse, Ellsworth 67439—913/472-4234
Ford County Health Dept., Courthouse, Dodge City 67801—316/225-4991
Franklin County Health Dept., 112 W. Tecumseh, Ottawa 66067—913/242-1873
Graham County Hospital, Hill City 67642—913/674-2121
Harper County Health Dept., Courthouse, Anthony 67003—316/842-5264
Harvey County Health Dept., Courthouse, Newton 67114—316/283-1060
Jackson County Health Dept., Courthouse, Holton 66436—913/364-2670
Jefferson County Health Dept., Courthouse, Oskaloosa 66066—913/863-2447
Kansas City Visiting Nurses' Association, One Gateway Center, Suite 219, Kansas City, Kansas 66117—913/371-3770
Kingman County Health Dept., Courthouse, Kingman, 67068—316/532-2221
Labette County Health Dept., Box 786, Parsons 67357—316/421-4350
Logan County Hospital, Oakley 67748—913/672-3211
Lyon County Home Health Service, Newman Memorial Hospital, Emporia 66801—316/342-8562
McPherson County Health Dept., Courthouse, McPherson 67460—316/241-1753
Morris County Health Dept., Courthouse, Council Grove 66846—316/767-5175
Osage County Health Dept., Courthouse, Lyndon 66451—913/828-3281
Pratt County Health Dept., 106 E. 2nd, Pratt 67124—316/672-6122
Reno County-St. Elizabeth Hospital, 500 W. 20th, Hutchinson 67501—316/665-5531
Republic County Health Dept., Courthouse, Belleville 66935—913/527-5385
Rice County Health Dept., Courthouse, Lyons 67554—316/257-2171
Riley County Health Dept., 616 Poyntz, Manhattan 66502—913/776-9721
Russell County Health Dept., Courthouse, Russell 67665—913/483-2641
Salina-Saline County Health Dept., 300 W. Ash, Salina 67401—913/827-9376
Sedgwick County Health Dept., 1900 E. 9th, Wichita 67214—316/268-8433
Shawnee County Health Dept., 1615 W. 8th, Topeka 66606—913/233-8961
Sheridan County Hospital, Hoxie 67740—913/675-3281
Thomas County-St. Thomas Hospital, Colby 67701—913/462-3335
Washington County Health Dept., Washington 66968—913/325-2600

GENETIC COUNSELING CENTERS

Kansas City—Genetic Counseling Center, Division of Medical Genetics, K.U.M.C., 39th & Rainbow Blvd., Kansas City, KS 66103—913/588-6043—R. Neil Schimke, M.D., Director

Topeka—Genetic Counseling Center, 105-A Medical Arts Bldg., 1001 Horne, Topeka, KS 66604—913/232-1295—David E. Gray, M.D., Director

Wichita—Genetic Counseling Unit, Wesley Medical Center, 550 N. Hillside, Wichita, KS 67214—316/685-2151

To Contact Your Legislators:

U. S. CONGRESSIONAL DELEGATION

Senators:

James B. Pearson, 5313 Dirksen Senate Office Bldg., 20515. Phone extension: 4774

Robert Dole, 4213 Dirksen Senate Office Bldg., 20515. Phone extension: 6521

Representatives:

1. Keith G. Sebelius, 1211 Longworth House Office Bldg., 20510. Phone extension: 2715
2. Martha Keys, 1207 Longworth House Office Bldg., 20510. Phone extension: 6601
3. Larry Winn, Jr., 2430 Rayburn House Office Bldg., 20515. Phone extension: 2865
4. Garner E. Shriver, 2209 Rayburn House Office Bldg., 20515. Phone extension: 6216
5. Joe Skubitz, 2211 Rayburn House Office Bldg., 20515. Phone extension: 3911

When writing, the following form is appropriate:

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Honorable John Doe,
United States Senate
Address

Dear Senator Doe:

Representatives:

Honorable John Doe,
House of Representatives
Address

Dear Mr. Doe:

To telephone Senators and Representatives in Washington, dial or call Area Code 202, 224 plus the four-digit extension shown above with the Senator's name. To reach a Representative, dial 225, plus the extension number.

KANSAS LEGISLATURE

To write state Senators and Representatives, the following addresses may be used:

Senators:

Honorable John Doe
Senate Chambers
State Capitol Building
Topeka, KS 66612

Dear Senator Doe:

Phone: (913) 296-7300

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Each 5 ml teaspoonful contains 32.5 mg theophylline, 6 mg ephedrine HCl, and 2 mg phenobarbital; the alcohol content is 15%.

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Tedral Elixir: each 5 ml teaspoonful contains 32.5 mg theophylline, 6 mg ephedrine hydrochloride, and 2 mg phenobarbital; the alcohol content is 15%.

Indications. Tedral, Tedral SA, and Tedral Elixir are indicated for the symptomatic relief of bronchial asthma, asthmatic bronchitis, and other bronchospastic disorders. They may also be used prophylactically to abort or minimize asthmatic attacks and are of value in managing occasional, seasonal or perennial asthma.

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Contraindications. Sensitivity to any of the ingredients; porphyria.

Warnings. Drowsiness may occur. PHENOBARBITAL MAY BE HABIT-FORMING.

Precautions. Use with caution in the presence of cardiovascular disease, severe hypertension, hyperthyroidism, prostatic hypertrophy, or glaucoma.

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Manuscripts must be typewritten, double spaced, leaving wide margins. Submit the original, plus one copy if possible.

Titles should be short, specific, and amenable to indexing. A subtitle is frequently used to keep the main title short.

Summary: All manuscripts should include a short abstract which is a factual (not descriptive) summary of the work.

Author Responsibility: The author is responsible for all statements made in his work, including changes made by the copy editor. Manuscripts are received with the explicit understanding that they are not simultaneously under consideration by any other publication. Publication elsewhere will be subsequently authorized at the discretion of the Editor.

Galley Proof: To make extensive changes in the article after the text has been set in type may require an additional cost which exceeds the original. The galley proof is for correction of ERRORS, and a rewriting of the article should be done on the original copy BEFORE it is submitted for publication.

Drugs should be called by their generic names; the trade names can be added in parentheses if they are considered important. All *units of measure* must be given in the metric system.

References

Bibliographic references should not exceed 20 in number, documenting key publications. Personal communications and unpublished data should not be included. References should be arranged according to the order of citation, and not alphabetically. All references must be numbered consecutively and all must be cited in the text. Use the style of the AMA publications, giving: name of author, title of article, name of periodical, volume, pages, year.

Illustrations

All material which cannot be set in type, such as photographs, line drawings, graphs, charts, tracings (for preparation of tables, see below) must be mounted on white cardboard. All must be identified on the back as to figure number, author's name, and an arrow indicating top. Legends should be typed double spaced on a separate sheet of paper, limited to a maximum of 30 words.

Drawings and Graphs should be done professionally in India ink on illustration board or high grade white drawing paper.

Photographic material should be submitted in duplicate as high contrast, glossy prints. Color illustrations will be accepted for publication only if the author assumes the cost.

THE JOURNAL will assume the cost of B/W engravings and cuts up to $35 (or 5 cuts). Engraving cost for illustrations in excess of $35 will be billed to the author.

Tables

Because tables are set by hand, their cost is comparable to illustrations. A reasonable number of tables are allowed without cost to the author.

Tables should be self-explanatory and should supplement, not duplicate, the text. Since the purpose of a table is to compare or classify related items, the data must be logically and clearly organized. The relationship and comparison are established by the correct choice of column heads (captions of vertical columns) and stubs (left entries in horizontal listings).

Each table should be typed double spaced, including all headings, on separate sheets of lettersize paper. Oversize paper should not be used. Instead, repeat heads and stubs on a second sheet for tables requiring extra width. Number tables consecutively. Each table must have a title.

Reprints

A reprint order form with a table covering cost will be sent with the galley proof to each contributor. Since the JOURNAL has no way to provide for reprints, they must be ordered by the author and purchased directly from the printer.

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I swear by Apollo the physician, and Aesculapius, and Health, and All-heal, and all the gods and goddesses, that, according to my ability and judgment, I will keep this Oath and this stipulation—to reckon him who taught me this Art equally dear to me as my parents, to share my substance with him, and relieve his necessities if required; to look upon his offspring in the same footing as my own brothers, and to teach them this art, if they shall wish to learn it, without fee or stipulation; and that by precept, lecture, and every other mode of instruction, I will impart a knowledge of the Art to my own sons, and those of my teachers, and to disciples bound by a stipulation and oath according to the law of medicine, but to none others. I will follow that system of regimen which, according to my ability and judgment, I consider for the benefit of my patients, and abstain from whatever is deleterious and mischievous. I will give no deadly medicine to any one if asked, nor suggest any such counsel; and in like manner I will not give to a woman a pessary to produce abortion. With purity and with holiness I will pass my life and practice my Art. I will not cut persons laboring under the stone, but will leave this to be done by men who are practitioners of this work. Into whatever houses I enter, I will go into them for the benefit of the sick, and will abstain from every voluntary act of mischief and corruption; and, further, from the seduction of females or males, of freemen and slaves. Whatever, in connection with my professional practice or not, in connection with it, I see or hear, in the life of men, which ought not to be spoken of abroad, I will not divulge, as reckoning that all such should be kept secret. While I continue to keep this Oath unviolated, may it be granted to me to enjoy life and the practice of the art, respected by all men, in all times! But should I trespass and violate this Oath, may the reverse be my lot!

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CONTINUING MEDICAL EDUCATION

The 1976 Kansas Legislature enacted a law requiring continuing medical education as a requisite to relicensure in Kansas. HB-2723 provides that, "From and after July 1, 1978, the Kansas State Board of Healing Arts shall require every licensee to submit with the renewal application evidence of satisfactory completion of a program of continuing education required by the Board." The following is a description of the CME requirements established by the Board, and an explanation of how to comply with the requirements and exemption from the requirements.

As a basic requirement, the Board adopted the CME requirements of the Kansas Medical Society, which is the attainment of the American Medical Association "Physician's Recognition Award." The basic criteria for the PRA is 150 hours of educational experience over a three-year period. The educational activities are described in six separate categories. Below is a brief description of each category and the maximum number of hours that can be obtained in each category:

	Credit Hours Limit
Category 1—CME activities with accredited sponsorship (60 hours required)	no limit
Category 2—CME activities with non-accredited sponsorship	45 hrs.
Category 3—Medical teaching	45 hrs.
Category 4—Papers, publications, books, exhibits	40 hrs.
Category 5—Non-supervised individual CME activities	45 hrs.
Category 6—Other meritorious learning experiences	45 hrs.

Completion of AMA-PRA satisfies the requirement established by the Board. Because relicensure is on a yearly basis, and the PRA is on a three-year basis, a physician need only have a valid PRA in effect to be in compliance with the requirements of the Board.

Additionally, completion of the CME certification programs of any of the following organizations also constitutes compliance with the requirements of the Board:

American Academy of Dermatology;
American College of Emergency Physicians;
American Academy of Family Physicians;
American College of Obstetricians and Gynecologists;
American Association of Neurological Surgeons;
College of American Pathologists/American Society of Clinical Pathologists;
American College of Radiology;
Any other specialty organization CME certification programs subsequently recognized by the AMA.

If you satisfy the requirements of any of the above organizations, you need *not* apply for the "Physician's Recognition Award." Each specialty organization will notify the Kansas Medical Society of your certification, and the Kansas Medical Society will in turn notify the Board that you have satisfactorily completed your requirements.

If you do not qualify for the specialty organization programs listed above, you must apply directly to the AMA for the "Physician's Recognition Award." Upon receipt of the award, the AMA will notify the Board that you have completed the requirement.

Questions concerning CME requirement can be directed to the Board or the Kansas Medical Society. The addresses of each are as follows:

The Kansas State Board of Healing Arts
503 Kansas Avenue
Topeka, KS 66603
Telephone: (913) 296-7413

The Kansas Medical Society
1300 Topeka Boulevard
Topeka, KS 66612
Telephone: (913) 235-2383

Each individual physician is responsible for recording his own hours of attendance at postgraduate courses. The credit hours should be recorded on the AMA Physician's Recognition Award application form when 150 hours are accumulated. The application form should then be mailed directly to the AMA, 535 North Dearborn, Chicago, IL 60610.

Principles of Medical Ethics of the American Medical Association

Preamble

These principles are intended to aid physicians individually and collectively in maintaining a high level of ethical conduct. They are not laws but standards by which a physician may determine the propriety of his conduct in his relationship with patients, with colleagues, with members of allied professions, and with the public.

Section 1

The principal objective of the medical profession is to render service to humanity with full respect for the dignity of man. Physicians should merit the confidence of patients entrusted to their care, rendering to each a full measure of service and devotion.

Section 2

Physicians should strive continually to improve medical knowledge and skill, and should make available to their patients and colleagues the benefits of their professional attainments.

Section 3

A physician should practice a method of healing founded on a scientific basis; and he should not voluntarily associate professionally with anyone who violates this principle.

Section 4

The medical profession should safeguard the public and itself against physicians deficient in moral character or professional competence. Physicians should observe all laws, uphold the dignity and honor of the profession and accept its self-imposed disciplines. They should expose, without hesitation, illegal or unethical conduct of fellow members of the profession.

Section 5

A physician may choose whom he will serve. In an emergency, however, he should render service to the best of his ability. Having undertaken the care of a patient, he may not neglect him; and unless he has been discharged he may discontinue his services only after giving adequate notice. He should not solicit patients.

Section 6

A physician should not dispose of his services under terms or conditions which tend to interfere with or impair the free and complete exercise of his medical judgment and skill or tend to cause a deterioration of the quality of medical care.

Section 7

In the practice of medicine a physician should limit the source of his professional income to medical services actually rendered by him, or under his supervision, to his patients. His fee should be commensurate with the services rendered and the patient's ability to pay. He should neither pay nor receive a commission for referral of patients. Drugs, remedies or appliances may be dispensed or supplied by the physician provided it is in the best interests of the patient.

Section 8

A physician should seek consultation upon request; in doubtful or difficult cases; or whenever it appears that the quality of medical service may be enhanced thereby.

Section 9

A physician may not reveal the confidences entrusted to him in the course of medical attendance, or the deficiencies he may observe in the character of patients, unless he is required to do so by law or unless it becomes necessary in order to protect the welfare of the individual or of the community.

Section 10

The honored ideals of the medical profession imply that the responsibilities of the physician extend not only to the individual, but also to society where these responsibilities deserve his interest and participation in activities which have the purpose of improving both the health and the well-being of the individual and the community.

Excerpts From the Kansas Healing Arts Act

K.S.A. 65-2801. Recognizing that the practice of the healing arts is a privilege granted by legislative authority and is not a natural right of individuals, it is deemed necessary as a matter of policy in the interests of public health, safety and welfare, to provide laws and provisions covering the granting of that privilege and its subsequent use, control and regulation to the end that the public shall be properly protected against unprofessional, improper, unauthorized and unqualified practice of the healing arts and from unprofessional conduct by persons licensed to practice under this act.

K.S.A. 65-2802. For the purpose of this act the following definitions shall apply:

(a) The healing arts include any system, treatment, operation, diagnosis, prescription, or practice for the ascertainment, cure, relief, palliation, adjustment, or correction of any human disease, ailment, deformity, or injury, and includes specifically but not by way of limitation the practice of medicine and surgery; the practice of osteopathic medicine and surgery; and the practice of chiropractic. . . .

K.S.A. 65-2803. No person shall engage in the practice of any branch of the healing arts, as hereinafter defined, unless he shall have obtained from the board a license for that purpose.

K.S.A. 65-2804. No person shall receive a permanent license under this act until such person shall have furnished satisfactory evidence to the board that such person has attained legal age and is of good moral character. In determining moral character under this section, the board shall take into consideration any felony conviction of such person, but such a conviction shall not automatically operate as a bar to licensure.

K.S.A. 65-2805. The board may refuse to grant a license to any person, otherwise qualified, upon any of the grounds for which a license may be revoked under the provisions hereinafter contained.

K.S.A. 65-2807. Every license issued under this act shall be presumptive evidence of the right of the holder to practice that branch of the healing arts and only such branch as is specified therein. The records of the board shall reflect the type of license issued to each applicant.

K.S.A. 65-2808. The name, age, place of birth, current address, school, and date of graduation, and date of license, if one be issued, with rating or grades received, of all applicants for examination shall be filed in the office of the board, which office shall be located in the city of Topeka. The names of applicants shall be appropriately indexed, and all other records relating to that application or license granted shall be given the same designation. A suitable record shall also be kept of those granted licenses. Applications shall be upon forms prepared by the board, and completed applications shall be retained as a part of its permanent records. All applications based on licenses granted in other states shall be received upon forms prepared by the board and entered as near as may be in the same form as are those applying for examinations. In addition to the date of license, the length of time of practice in all other states shall be given and entered. All such records shall be open to public inspection under proper regulations adopted by the board.

K.S.A. 65-2811. The secretary of the board may issue a temporary permit to practice the appropriate branch of the healing arts to any person:

(a) Who shall have made proper application for a license by examination or endorsement; has the required qualifications for such license; and has paid the prescribed examination and other fees, and such permit, when issued shall authorize the person receiving same to practice within the limits of his permit until the date of the next examination, but no more than one such temporary permit shall be issued to any one person without the majority approval of the members of the board.

(b) Who is engaged in a full-time approved postgraduate training program; has made proper application for such temporary permit upon forms approved by the board; meets all qualifications of licensure, except examinations and postgraduate training, as required by this act, and has paid the prescribed fees as established by the board for such temporary permit. Such permit, when issued, shall authorize the person receiving the same to practice his branch of the healing arts in the postgraduate training program while continuously so engaged, but shall not authorize the person receiving the same to engage in the private practice of . . . the healing arts.

K.S.A. 65-2812. For the purpose of giving examinations to applicants for license to practice the healing arts prescribed herein, and to administer and execute this act, the governor, by and with the consent of the senate, shall appoint a state board of healing arts consisting of thirteen (13) members. . . .

K.S.A. 65-2813. Five (5) members of the board shall hold a degree of doctor of medicine from an accredited medical school and shall be residents of and have been

actively engaged in the practice of medicine and surgery in the state of Kansas under license issued in this state, for a period of at least six (6) consecutive years immediately preceding their appointment; three (3) members shall hold a degree of doctor of osteopathy from an accredited school of osteopathic medicine and surgery and shall be residents of and have been actively engaged in the practice of osteopathic medicine and surgery in the state of Kansas under license issued in this state, for a period of at least six (6) consecutive years immediately preceding their appointment; and three (3) members shall hold a degree of doctor of chiropractic from an accredited school of chiropractic and shall be residents of and have been actively engaged in the practice of chiropractic in the state of Kansas under license issued in this state, for a period of at least six (6) consecutive years immediately preceding their appointment; and one member shall be a registered podiatrist and shall be a resident of and have been actively engaged in the practice of podiatry in the state of Kansas under license issued in this state for a period of at least six (6) consecutive years immediately preceding appointment; and one member shall be from the general public of this state.

K.S.A. 65-2828. The board shall prepare rules regulating examinations and grading of examination papers. In the absence of any definite provision all applicants shall be required to attain an average grade of seventy-five percent (75%) and not to fall below a grade of sixty percent (60%) in any one subject. When an applicant falls below sixty percent (60%) in not more than two (2) subjects he may take those over without charge at any time within one (1) year. If an applicant falls below sixty percent (60%) in more than two (2) subjects, or if he fails to attain an average grade of seventy-five percent (75%) in all subjects, he may take the entire examination over, without charge, at any time within twelve (12) months, or at the first subsequent meeting of the board if it is not in session within that time.

K.S.A. 65-2830. The examination under this act shall be given and graded by members of the board who hold a license in the branch of the healing arts in which the applicant seeks to be licensed.

K.S.A. 65-2833. The board, without examination, may issue a license to a person who has been in the active practice of a branch of the healing arts in some other state, territory, the District of Columbia, or other country upon certificate of the proper licensing authority of that state, territory, District of Columbia, or other country certifying that the applicant is duly licensed, and his license has never been suspended or revoked, and that, so far as the records of said authority are concerned, the applicant is entitled to its endorsement. Said applicant shall also present proof of the following things:

(a) That the state, territory, District of Columbia, or other country in which the applicant last practiced shall have and maintain standards at least equal to those maintained by Kansas.

(b) That the applicant's original license was based upon the examination and the grade given at such examination.

(c) Date of the applicant's original and any and all endorsed licenses and the date and place from which any license was attained.

(d) That the applicant has been actively engaged in practice under such license or licenses since issued, and if not, fix the time when and reason why the applicant was out of practice.

(e) That the applicant has a reasonable ability to communicate in English.

An applicant for endorsement registration shall not be licensed unless the applicant's individual qualifications meet the Kansas legal requirements.

In lieu of any other requirement prescribed by law for satisfactory passage of any examination of any branch of the healing arts the board may accept evidence satisfactory to it that the applicant or licensee has satisfactorily passed an equivalent examination given by a national board of examiners in chiropractic, osteopathic medicine and surgery or medicine and surgery as now required by Kansas statutes for endorsement from other states.

K.S.A. 65-2836. A license may be revoked, suspended or limited when the licensee has been found to have committed any of the following acts: (a) Fraud in securing the license. (b) Immoral, unprofessional or dishonorable conduct. (c) Conviction of a felony if the board determines, after investigation, that such person has not been sufficiently rehabilitated to warrant the public trust. (d) Use of untruthful or improbable statements or flamboyant, exaggerated or extravagant claims in advertisements concerning such licensee's professional excellence or abilities. (e) Use and distribution of literature advertising professional abilities. (f) Other unethical advertising practice. (g) Addiction to or distribution of intoxicating liquors or drugs for any other than lawful purposes. (h) Willful or repeated violation of this act or the rules and regulations of the secretary of health and environment. (i) Unlawful invasion of the field of practice of any branch of the healing arts in which the licensee is not licensed to practice. (j) Failure to pay annual renewal fees specified in this act. (k) Failure to take some form of postgraduate work each year or as required by the board. (l) Engaging

in the practice of the healing arts under a false or assumed name, or the impersonation of another practitioner. The provisions of this subsection relating to an assumed name shall not apply to licensees practicing under a professional corporation or other legal entity duly authorized to provide such professional services in the state of Kansas. (m) Inability to practice the branch of the healing arts for which such person is licensed with reasonable skill and safety to patients by reason of illness, alcoholism, excessive use of drugs, controlled substances, chemicals or any other type of material or as a result of any mental or physical condition. In determining whether or not such inability exists, the board, upon probable cause, shall have authority to compel a licensee to submit to a mental or physical examination by such persons as the board may designate. Failure of any licensee to submit to such examination when directed shall constitute an admission of the allegations against him, unless the failure was due to circumstances beyond his control, and the board may enter a default and final order in any case of default without just cause being shown to the board without the taking of testimony or presentation of evidence. A person affected by this subsection shall be offered, at reasonable intervals, an opportunity to demonstrate that he can resume the competent practice of the healing arts with reasonable skill and safety to patients. For the purpose of this subsection, every person licensed to practice the healing arts and who shall accept the privilege to practice the healing arts in this state by so practicing or by the making and filing of an annual renewal to practice the healing arts in this state shall be deemed to have consented to submit to a mental or physical examination when directed in writing by the board and further to have waived all objections to the admissibility of the testimony or examination report of the person conducting such examination at any proceeding or hearing before the board on the ground that such testimony or examination report constitutes a privileged communication. In any proceeding by the board pursuant to the provisions of this subsection, the record of such board proceedings involving the mental and physical examinations, shall not be used in any other administrative or judicial proceeding. (n) Had his license to practice the healing arts revoked, suspended, or limited or had other disciplinary action taken, or an application for a license denied, by the proper licensing authority of another state, territory, District of Columbia, or other country. (o) Violated any lawful rule or regulation promulgated by the board or violated any lawful order or directive of the board previously entered by the board.

K.S.A. 65-2837. For the purpose of the preceding section, "unprofessional conduct" shall consist of any of the following acts: (a) Solicitation of professional patronage, or profiting by the acts of those representing themselves to be agents of the licensee. (b) Receipt of fees on the assurance that a manifestly incurable disease can be permanently cured. (c) Assisting in the care or treatment of a patient without the consent of said patient, his attending physician or his legal representatives. (d) The use of any letters, words, or terms, as an affix, on stationery, in advertisements, or otherwise indicating that such person is entitled to practice a branch of the healing arts for which he is not licensed. (e) Performing, procuring or aiding and abetting in the performance or procurement of a criminal abortion. (f) Willful betrayal of confidential information. (g) Making use of any advertising statements of a character tending to deceive or mislead the public. (h) Advertising professional superiority or the performance of professional services in a superior manner. (i) Advertising prices for professional service; posting of fees as required by law shall not be deemed advertising. (j) Advertising by means of a large display, lights, signs, or containing as a part thereof, the representation of any portion of the human body. (k) Employing or making use of advertising solicitors or free public press agents. (1) Advertising any free professional services or free examination. (m) Offering discounts or inducements to prospective patients by means of coupons or otherwise to perform professional services during the given period of time or during any period of time for a lesser or more attractive price. (n) Advertising to guarantee any professional service or to perform any operation painlessly. (o) Individually advertising any price or prices of corrective devices or services. (p) Participating in any action as a staff member of a medical care facility which is designed to exclude or which results in the exclusion of any person licensed to practice medicine and surgery from the medical staff of a nonprofit medical care facility licensed in this state because of the branch of the healing arts practiced by such person or without just cause.

K.SA. 65-2838. The board shall have jurisdiction of the proceedings to revoke, suspend or limit the license of any licensee practicing under this act. The petition for the revocation, suspension or limitation of a license may be filed: (a) By the attorney general in all cases; (b) by the county or district attorney of the county in which the licensee resides or has practiced; or (c) by a regularly employed attorney of the board. Said petition shall be filed in the office of the secretary of the board.

The board and the licensee may enter into a stipulation which shall be binding upon the board and the li-

censee entering into such stipulation, and the board may enter its enforcement order based upon such stipulation without the necessity of filing any formal charges or holding hearings in the case.

K.S.A. 65-2852. The following fees shall be collected by the board:

(a) For a license, issued upon the basis of an examination given by the board, in a sum to be fixed by the board of not more than one hundred dollars ($100).

(b) For a license, issued without examination and by endorsement, in a sum to be fixed by the board.

(c) For a license, issued upon a certificate from the aforesaid national boards, in a sum fixed by the board.

(d) For the annual renewal of a license, the sum of not less than five dollars ($5) nor more than fifteen dollars ($15). On or before May 15, each year, the state board of healing arts shall determine the amount of funds that will be required during the next ensuing license year beginning July 1, to properly administer the law which the board is directed to administer under K.S.A. 65-2801 *et seq.,* as amended, and shall fix the fees annually for the succeeding year in such reasonable sums as may be necessary within the limitations prescribed.

(e) For a certified statement from the board that a licensee is licensed in this state, the sum of ten dollars ($10).

(f) For any copy of any license issued by the board, the sum of ten dollars ($10).

K.S.A. 65-2866. Upon the request of the board, the attorney general or county or district attorney of the proper county shall institute in the name of the state or board the proper proceedings against any person regarding whom a complaint has been made charging him with the violation of any of the provisions of this act, and the attorney general, and such county or district attorney, at the request of the attorney general or of the board shall appear and prosecute any and all such actions.

K.S.A. 65-2867. The opening of an office for the practice of the healing arts, the announcing to the public in any way the intention to practice the healing arts, the use of any professional degree, or designation, or any sign, card, circular, device, or advertisement as a practitioner, or as a person skilled in the same, shall be prima facie evidence of engaging in the practice of said healing arts as defined in this act.

K.S.A. 65-2868. For the purpose of this act the following persons shall be deemed to be engaged in the practice of the healing arts: Persons who hold themselves out to the public as being engaged in or who maintain an office for the practice of the healing arts as defined in K.S.A. 65-2802, as amended.

K.S.A. 65-2869. For the purpose of this act the following persons shall be deemed to be engaged in the practice of medicine and surgery:

(a) Persons who publicly profess to be physicians or surgeons, or publicly profess to assume the duties incident to the practice of medicine or surgery or any of their branches.

(b) Persons who prescribe, recommend or furnish medicine or drugs, or perform any surgical operation of whatever nature by the use of any surgical instrument, procedure, equipment, or mechanical device for the diagnosis, cure or relief of any wounds, fractures, bodily injury, infirmity, disease or physical or mental illness, of human beings.

(c) Persons who attach to their name the title M.D., surgeon, physician, physician and surgeon, or any other word or abbreviation indicating that they are engaged in the treatment or diagnosis of ailments, diseases or injuries of human beings.

Sec. 31. K.S.A. 65-2870 is hereby amended to read as follows: 65-2870. For the purpose of this act the following persons shall be deemed to be engaged in the practice of osteopathy or to be osteopathic physicians and surgeons:

(a) Persons who publicly profess to be osteopathic physicians, or publicly profess to assume the duties incident to the practice of osteopathy, as heretofore interpreted by the supreme court of this state, shall be deemed to be engaged in the practice of osteopathy.

(b) Osteopathic physicians and surgeons shall mean and include those persons who receive a license to practice medicine and surgery pursuant to the provisions of this act.

K.S.A. 65-2872. The practice of the healing arts shall not be construed to include the following persons:

(a) Persons rendering gratuitous services in the case of an emergency.

(b) Persons gratuitously administering ordinary household remedies.

(c) The members of any church practicing their religious tenets provided they shall not be exempt from complying with all public health regulations of the state.

(d) Students while in actual classroom attendance in an accredited healing arts school who after completing one (1) year's study treat diseases under the supervision of a licensed instructor.

(e) Students upon the completion of at least three (3) years study in an accredited healing arts school and who, as a part of their academic requirements for a degree, serve a preceptorship not to exceed ninety

(90) days under the supervision of a licensed practitioner.

(f) Persons who massage for the purpose of relaxation, muscle conditioning, or figure improvement, provided no drugs are used and such persons do not hold themselves out to be physicians or healers.

(g) Persons whose professional services are performed under the supervision or by order of or referral from a practitioner who is licensed under this act.

(h) Persons in the general fields of psychology, education and social work, dealing with the social, psychological and moral well-being of individuals and/or groups provided they do not use drugs and do not hold themselves out to be the physicians, surgeons, osteopathic physicians or chiropractors.

(i) Practitioners of the healing arts in the United States army, navy, air force, public health service, and coast guard or other military service when acting in the line of duty in this state.

(j) Practitioners of the healing arts licensed in another state when and while incidentally called into this state in consultation with practitioners licensed in this state, or residing on the border of a neighboring state, duly licensed under the laws thereof to practice a branch of the healing arts, but who do not open an office or maintain or appoint a place to regularly meet patients or to receive calls within this state.

(k) Dentists practicing their professions, when licensed and practicing in accordance with the provisions of article 14 of chapter 65 of the Kansas Statutes Annotated, or amendments thereto, and any interpretation thereof by the supreme court of this state.

(l) Optometrists practicing their professions, when licensed and practicing under and in accordance with the provisions of article 15 of chapter 65 of the Kansas Statutes Annotated, or amendments thereto, and any interpretation thereof by the supreme court of this state.

(m) Nurses practicing their profession when licensed and practicing under and in accordance with the provisions of article 11 of chapter 65 of the Kansas Statutes Annotated, or amendments thereto, and any interpretation thereof by the supreme court of this state.

(n) Podiatrists practicing their profession, when licensed and practicing under and in accordance with the provisions of article 20 of chapter 65 of the Kansas Statutes Annotated, or amendments thereto, and any interpretation thereof by the supreme court of this state.

(o) Every act or practice falling in the field of the healing art, not specifically excepted herein, shall constitute the practice thereof.

(p) Pharmacists practicing their profession, when licensed and practicing under and in accordance with the provisions of article 16 of chapter 65 of the Kansas Statutes Annotated, or amendments thereto, and any interpretation thereof by the supreme court of this state.

K.S.A. 65-2873. (a) Each applicant for a license by examination to practice any branch of the healing arts in this state shall: (1) Present evidence of proficiency in the basic sciences issued by the national board of medical examiners, the board of examiners of osteopathic physicians and surgeons or the national board of chiropractic examiners or such other examining body as may be approved by the board or in lieu thereof pass such examination as the board may require in the basic science subjects. (2) Present proof that he is a graduate of an accredited healing arts school or college. (3) Pass an examination prescribed and conducted by the board covering the subjects incident to the practice of the branch of healing art for which the applicant applies.

(b) Any person seeking a license to practice medicine and surgery shall present proof that he has completed acceptable postgraduate study as may be required by the board by regulations.

(c) No person licensed to practice and actively engaged in the practice of the healing arts shall attach to his name any title, or any word or abbreviation indicating that he is a doctor of any branch of the healing arts other than the branch of the healing arts in which such person holds a license, but shall attach to his name the degree or degrees to which he is entitled by reason of his diploma.

K.S.A. 65-2874. An accredited school of medicine for the purpose of this act shall be a school or college which requires the study of medicine and surgery in all of its branches, which the board shall determine to have a standard of education not below that of the university of Kansas school of medicine. All such schools shall be approved by the board.

K.S.A. 65-2886. Every licensee hereunder shall be subject to all state and municipal regulations relating to the control of contagious and infectious diseases; sign death certificates and any and all matters pertaining to public health, and shall report all matters pertaining to public health as required by law.

K.S.A. 65-2895. (a) There is hereby created a designation of fellowship license which may be issued by the secretary to a person who is a graduate of an accredited school of the healing arts, who has successfully completed the examination given by the American Medical Association's Educational Council for Foreign Medical Graduates and who is employed by the department of social and rehabilitation services or employed by any institution within the department of corrections. The fellowship license shall confer upon the holder the right and privilege to practice that branch of the healing arts in which the holder of the fellowship license is proficient

and shall obligate the holder to comply with all requirements of such license. Practice privileges are restricted as follows: the fellowship license shall be valid only during the period in which the holder is employed by the department of social and rehabilitation services or employed by any institution within the department of corrections, and only within the institution to which he is assigned, but no fellowship license shall be valid for more than two (2) consecutive years following the date of original issuance. If such license was in effect on the effective date of this act, the date on which this act becomes effective shall constitute the date of original issuance of the fellowship license for the purpose of computing such two (2) year limitation. No fellowship license shall be renewable after such two (2) year period.

K.S.A. 65-2896. Physicians' assistants; definition; register by state board. The state board of healing arts shall maintain a register of the names of physicians' assistants who request to have their names placed on the register showing the record of training held by each person so registered and such person's current address. The state board of healing arts may adopt rules and regulations necessary to carry out the provisions of this act. As used in this act the term "physicians' assistant" shall mean a skilled person qualified by academic training to provide patient services under the direction and supervision of a physician licensed to practice medicine and surgery who is responsible for the performance of that assistant. [K.S.A. 74-3222; L. 1973, ch. 315, §1; L. 1975, ch. 327, §1; July 1.]

K.S.A. 65-2896a. Same; entry of name on register; qualifications; exceptions. From and after the effective date of this act, no person's name shall be entered on the register of physicians' assistants by the state board of healing arts unless such person shall have:

(a) Presented to the state board of healing arts proof of graduation from an accredited high school or the equivalent thereof; and

(b) presented to the state board of healing arts proof that the applicant has successfully completed a course of education and training approved by the state board of healing arts for the education and training of physicians' assistants. Such course of education and training shall be substantially in conformity with educational and training programs for physicians' assistants approved by the state board of regents; or

(c) passed an examination prescribed by the state board of healing arts covering subjects incident to the education and training of physicians' assistants.

A person whose name has been entered on the register of physicians' assistants prior to the effective date of this act shall not be subject to the provisions of this section, unless such person's name has been removed from the register of physicians' assistants pursuant to the provisions of K.S.A. 1975 Supp. 65-2896b. [L. 1975, ch. 327, §2; July 1.]

K.S.A. 65-2896b. Same; removal of name from register, when. The board of healing arts may remove a person's name from the register of physicians' assistants for any of the following reasons:

(a) The person whose name is entered on the register of physicians' assistants requests or consents to the removal thereof; or

(b) the board of healing arts determines that the person whose name is entered on the register of physicians' assistants has not been employed as a physicians' assistant or as a teacher or instructor of persons being educated and trained as physicians' assistants in a course of education and training approved by the state board of healing arts under K.S.A. 1975 Supp. 65-2896a, at some time during the five years immediately preceding the date of such determination. [L. 1975, ch. 327, §3; July 1.]

K.S.A. 65-2896c. Same; use of title prohibited unless name entered on register; penalty. (a) From and after the effective date of this act, no person shall use the title physician's assistant or words of like effect nor shall any person represent himself or herself to be a physician's assistant unless such person's name is entered on the register of the names of physicians' assistants in accordance with the provisions of this act.

(b) Any person violating the provisions of this section shall be guilty of a class C misdemeanor. [L. 1975, ch. 327, §4; July 1.]

K.S.A. 65-2897. Same; transfer of records and information; rules and regulations. (a) On July 1, 1973, the state board of regents is hereby directed to transfer the register and all records and information concerning physicians' assistants to the state board of healing arts.

(b) All rules and regulations of the state board of regents relating to physicians' assistants in existence on the effective date of this act shall continue to be effective and shall be deemed to be duly adopted rules and regulations of the state board of healing arts until revised, amended or repealed by the state board of healing arts or until the same are nullified according to law. [L. 1973, ch. 315, §2; July 1.]

K.S.A. 65-2898. Immunity from liability in civil actions for reporting, communicating and investigating certain information concerning alleged malpractice incidents and other information; conditions. (a) No person reporting to the state board of healing arts under oath and in good faith any information such person may have relating to alleged incidents of malpractice or the qualifications, fitness or character of a person licensed

or registered by such board shall be subject to a civil action for damages as a result of reporting such information.

(b) Any state, regional or local association composed of persons licensed to practice a branch of the healing arts and the individual members of any committee thereof, which in good faith investigates or communicates information pertaining to the alleged incidents of malpractice or the qualifications, fitness or character of any licensee or registrant to the state board of healing arts or to any committee or agent thereof, shall be immune from liability in any civil action, that is based upon such investigation or transmittal of information if the investigation and communication was made in good faith and did not represent as true any matter not reasonably believed to be true. [L. 1976, ch. 261, §1; July 1.]

K.S.A. 65-2899. Certification of licensed dentists to administer anesthetics to facilitate medical procedures; suspension or revocation of certificate; procedure. A dentist licensed in accordance with the provisions of article 14 of chapter 65 of the Kansas Statutes Annotated shall be certified by the board of healing arts to administer general and local anesthetics to facilitate medical procedures conducted by a person licensed to practice medicine and surgery if such dentist has completed a course of study and residency program in anesthesia from the University of Kansas School of Medicine and if such dentist has received a certificate attesting to the successful completion of such course of study and residency program. The board of healing arts may limit, suspend or revoke such certification if a person so certified is found to have committed any of the acts enumerated in K.S.A. 1976 Supp. 65-2836, where applicable. The procedure for limitation, suspension or revocation of such certification shall be the same as that provided under the Kansas healing arts act for the limitation, suspension or revocation of a license of a person licensed under such act. [L. 1976, ch. 276, §1; July 1.]

K.S.A. 65-28,100. (a) There is hereby created a designation of visiting professor temporary license which may be issued by the secretary to a person who holds a degree from an accredited school of medicine or an accredited school of osteopathy and who is licensed in another state, territory, the District of Columbia or in another country to practice medicine and surgery and who is employed by the University of Kansas School of Medicine or by a licensed medical care facility engaged in the education of medical students, nurses, physicians' assistants or other paramedical personnel, or which is offering an approved postgraduate program or which is engaged in the continuing education of its medical personnel. The chief administrative officer of the University of Kansas School of Medicine or of the licensed medical care facility shall apply to the secretary on behalf of the visiting professor to obtain for said professor a visiting professor temporary license. The request for a visiting professor temporary license shall be submitted by the chief administrative officer upon forms approved by the board. Such application shall state that the visiting professor is licensed in another state, territory, the District of Columbia or in another country to practice medicine and surgery, that the said professor is known to be professionally qualified and that no fee will be charged for services of the visiting professor. The visiting professor temporary license shall confer upon the holder the right and privilege to practice medicine and surgery and shall obligate the holder to comply with all requirements of such license. The visiting professor temporary license shall be valid only during the period in which the holder is employed by the University of Kansas School of Medicine or by a licensed medical care facility, and such license shall be valid only for the practice of medicine and surgery which is required to perform the professorship.

Legal Definition of Death

K.S.A. 77-202. Definition of Death.

A person will be considered medically and legally dead if, in the opinion of a physician, based on ordinary standards of medical practice, there is the absence of spontaneous respiratory and cardiac function and, because of the disease or condition which caused, directly or indirectly, these functions to cease, or because of the passage of time since these functions ceased, attempts at resuscitation are considered hopeless; and, in this event, death will have occurred at the time these functions ceased; or

A person will be considered medically and legally dead if, in the opinion of a physician, based on ordinary standards of medical practice, there is the absence of spontaneous brain function; and if based on ordinary standards of medical practice, during reasonable attempts to either maintain or restore spontaneous circulatory or respiratory function in the absence of aforesaid brain function, it appears that further attempts at resuscitation or supportive maintenance will not succeed, death will have occurred at the time when these conditions first coincide. Death is to be pronounced before artificial means of supporting respiratory and circulatory function are terminated and before any vital organ is removed for purposes of transplantation.

These alternative definitions of death are to be utilized for all purposes in this state, including the trials of civil and criminal cases, any laws to the contrary notwithstanding.

UNIVERSITY OF KANSAS COLLEGE OF HEALTH SCIENCES

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Mar. 29—Emergency Medicine
May 3—Therapy
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Nov. 17—Cancer
Mar. 30—Emergency Medicine
May 4—Therapy
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Oct. 4—Therapy
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May 2—Respiratory Failure
May 23—Emergency Medicine

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Nov. 16—Pediatrics
Mar. 29—Cancer
May 3—Respiratory Failure
May 24—Emergency Medicine

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Oct. 6—Therapy (This session only to be held at Colby Jr. College, Student Union, Room No. 101-102.)
Nov. 17—Pediatrics
Mar. 30—Cancer
May 4—Respiratory Failure
May 25—Emergency Medicine

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Good Samaritan Act

K.S.A. 65-2891. **Emergency care or assistance at scene of accident by certain persons, including treatment of minors; liability in damages; emergency care or assistance to minors engaging in sports without parental consent; damage liability; temporary emergency care or assistance during emergency within a hospital; liability; ordinary standards of care and rules of negligence applicable to emergency care and treatment.** (a) Any physician or any other practitioner of the healing arts, or dentist licensed to practice under the laws of this state, or any other state, or any registered professional nurse, or any physicians' assistant who has successfully completed an American medical association approved training program and has successfully completed the national board examination for physicians' assistants of the American board of medical examiners or any person who has successfully completed an approved emergency service program as defined by K.S.A. 1975 Supp. 65-2891a, who in good faith renders emergency care or assistance at the scene of an emergency or accident including treatment of a minor without first obtaining the consent of the parent or guardian of such minor shall not be liable for any civil damages for acts or omissions other than damages occasioned by gross negligence or by willful or wanton acts or omissions by such person in rendering such emergency care.

(b) Any physician, registered professional nurse or dentist licensed under the laws of this state, or of any other state, to practice medicine, professional nursing, dentistry or surgery, or any physicians' assistant who has successfully completed an American medical association approved training program and has successfully completed the national board examination for physicians' assistants of the American board of medical examiners, may, in good faith render emergency care or assistance, without compensation, to any minor requiring such care or assistance as a result of having engaged in competitive sports, without first obtaining the consent of the parent or guardian of such minor. Such physician, registered professional nurse, dentist or physicians' assistant shall not be liable for any civil damages other than damages occasioned by gross negligence or by willful or wanton acts or omissions by such person in rendering such emergency care.

(c) Any physician, registered professional nurse or dentist licensed under the laws of this state or any other state to practice medicine, professional nursing, dentistry or surgery, or any physicians' assistant who has successfully completed an American medical association approved training program and has successfully completed the national board examination for physicians' assistants of the American board of medical examiners, may in good faith render emergency care or assistance during an emergency which occurs within a hospital or elsewhere, with or without compensation, until such time as the physician employed by the patient or by his or her family or by his or her guardian assumes responsibility for such patient's professional care. The physician, registered professional nurse, dentist or physicians' assistant rendering such emergency care shall not be held liable for any civil damages other than damages occasioned by negligence.

(d) Any provision herein contained notwithstanding, the ordinary standards of care and rules of negligence shall apply in those cases wherein emergency care and assistance is rendered in any physician's or dentist's office, clinic, emergency room or hospital with or without compensation. [K.S.A. 65-2891; L. 1973, ch. 252, §1; L. 1975, ch. 326, §1; July 1.]

K.S.A. 65-2891a. **Same; emergency service program defined.** As used in this act, emergency service program means a program of instruction, approved by the university of Kansas medical center, consisting of eighty (80) clock hours or the equivalent thereof, of preliminary emergency medical care and at least eight (8) clock hours annually of supplemental instruction.

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Performance of Autopsy

65-2893. Autopsies; performance of; authorization. In any case of death wherein notification of the coroner is not required by K.S.A. 19-1031 and amendments thereto, or any case in which the coroner does not elect to perform an autopsy, an autopsy may be performed upon the body of a deceased person by a physician or surgeon when so authorized, in writing by the decedent during his lifetime. Additionally, unless the physician or surgeon has knowledge that contrary directions have been given by the decedent, the following persons in the order of priority stated, may consent to the performance of an autopsy: (1) The spouse, if one survives and if not incapacitated. If no spouse survives or if the spouse is incapacitated;

(2) an adult child;

(3) either parent;

(4) an adult brother or sister;

(5) the guardian of the decedent at the time of his death;

(6) any other person or agency authorized or under obligation to dispose of the body.

If there is no surviving spouse and an adult child is not immediately available at the time of death, the autopsy may be authorized by either parent; if a parent is not immediately available, it may be authorized by any adult brother or sister: *Provided,* That such autopsy shall not be performed under a consent given as required by a member of the class listed in (2), (3) or (4) above, if, before such autopsy is performed, any member of the class shall object to the performance of such autopsy in writing to the physician or surgeon by whom the autopsy is to be performed.

Treatment of Minors

65-2892. Examination and treatment of persons under 18 for venereal disease; liability. Any physician, upon consultation by any person under eighteen (18) years of age as a patient, may, with the consent of such person who is hereby granted the right of giving such consent, make a diagnostic examination for venereal disease and prescribe for and treat such person for venereal disease including prophylactic treatment for exposure to venereal disease whenever such person is suspected of having a venereal disease or contact with anyone having a venereal disease. All such examinations and treatment may be performed without the consent of, or notification to, the parent, parents, guardian or any other person having custody of such person. Any physician examining or treating such person for venereal disease may, but shall not be obligated to, in accord with his opinion of what will be most beneficial for such person, inform the spouse, parent, custodian, guardian or fiancé of such person as to the treatment given or needed without the consent of such person. Such informing shall not constitute libel or slander or a violation of the right of privacy or privilege or otherwise subject the physician to any liability whatsoever. In any such case, the physician shall incur no civil or criminal liability by reason of having made such diagnostic examination or rendered such treatment, but such immunity shall not apply to any negligent acts or omissions. The physician shall incur no civil or criminal liability by reason of any adverse reaction to medication administered, provided reasonable care has been taken to elicit from such person under eighteen (18) years of age any history of sensitivity or previous adverse reaction to the medication.

65-2892a. Examination and treatment of minors for drug abuse, misuse or addiction; liability. Any physician licensed to practice the healing arts in Kansas, upon consultation with any minor as a patient, may examine and treat such minor for drug abuse, misuse or addiction if such physician has secured the prior consent of such minor to the examination and treatment. All such examinations and treatment may be performed without the consent of any parent, guardian or other person having custody of such minor, and all minors are hereby granted the right to give consent to such examination and treatment. In any such case, the physician shall incur no civil or criminal liability by reason of having made such diagnostic examination or rendered such treatment, but such immunity shall not apply to any negligent acts or omissions. The physician shall incur no civil or criminal liability by reason of any adverse reaction to medication administered, if reasonable care has been taken.

Natural balance doesn't always come naturally

Big Balanced Rock, Chiricahua Mountains, Arizona (approx. 1,000 tons)

■ **Most Widely Prescribed**—Antivert is the most widely prescribed agent for the management of vertigo* associated with diseases affecting the vestibular system such as Menière's disease, labyrinthitis, and vestibular neuronitis.

■ **Relief of Nausea and Vomiting**—Antivert/25 can relieve the nausea and vomiting often associated with vertigo.*

■ **Dosage for Vertigo***—The usual adult dosage for Antivert/25 is one tablet t.i.d.

BRIEF SUMMARY OF PRESCRIBING INFORMATION

*INDICATIONS. Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:

Effective: Management of nausea and vomiting and dizziness associated with motion sickness.

Possibly Effective: Management of vertigo associated with diseases affecting the vestibular system.

Final classification of the less than effective indications requires further investigation.

CONTRAINDICATIONS. Administration of Antivert (meclizine HCl) during pregnancy or to women who may become pregnant is contraindicated in view of the teratogenic effect of the drug in rats.

The administration of meclizine to pregnant rats during the 12-15 day of gestation has produced cleft palate in the offspring. Limited studies using doses of over 100 mg/kg/day in rabbits and 10 mg/kg/day in pigs and monkeys did not show cleft palate. Congeners of meclizine have caused cleft palate in species other than the rat.

Meclizine HCl is contraindicated in individuals who have shown a previous hypersensitivity to it.

WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Usage in Children: Clinical studies establishing safety and effectiveness in children have not been done; therefore, usage is not recommended in the pediatric age group.

Usage in Pregnancy: See "Contraindications."

ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

More detailed professional information available on request.

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Antivert®/25
(meclizine HCl) 25 mg. Tablets
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Only 1 tablet B.I.D.

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Gantanol® DS

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double-strength dosage form for acute cystitis* patients

*nonobstructed; due to susceptible organisms

New Gantanol® DS (sulfamethoxazole) tablets offer even greater convenience and economy for your patients with acute, nonobstructed cystitis due to susceptible strains of *E. coli, Klebsiella-Aerobacter,* staphylococcus, *Proteus mirabilis* and, less frequently, *Proteus vulgaris*...

- The same amount of medication, the same efficacy, with only *half* the number of tablets per day.
- Simplified dosage regimen encourages patient compliance: 2 tablets (1 Gm each) STAT—then 1 tablet B.I.D. for 10 to 14 days.
- Clinical efficacy so basic you can start cystitis therapy even before culture results are available.
- In a clinical study of 406 patients on Gantanol (sulfamethoxazole) B.I.D., close to 9 out of 10 patients achieved negative urine cultures. While Gantanol tablets were used in this study, one Gantanol DS tablet has been proved bioequivalent to two Gantanol tablets.*

Gantanol is contraindicated during pregnancy, during the nursing period, and in infants under 2 months. During therapy, maintain adequate fluid intake, perform frequent CBC's and urinalyses with careful microscopic examination.

*Data on file, Hoffmann-La Roche Inc., Nutley, New Jersey.

and economy

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Acute, recurrent or chronic urinary tract infections (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms (usually *E. coli, Klebsiella-Aerobacter,* staphylococcus, *Proteus mirabilis* and, less frequently, *Proteus vulgaris*), in the absence of obstructive uropathy or foreign bodies. Note: Carefully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response; add aminobenzoic acid to follow-up culture media. The increasing frequency of resistant organisms limits the usefulness of antibacterials including sulfonamides, especially in chronic or recurrent urinary tract infections. Measure sulfonamide blood levels as variations may occur; 20 mg/100 ml should be maximum total level.

Contraindications: Sulfonamide hypersensitivity; pregnancy at term and during nursing period; infants less than two months of age.

Warnings: Safety during pregnancy has not been established. Sulfonamides should not be used for group A beta-hemolytic streptococcal infections and will not eradicate or prevent sequelae (rheumatic fever, glomerulonephritis) of such infections. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported and early clinical signs (sore throat, fever, pallor, purpura or jaundice) may indicate serious blood disorders. Frequent CBC and urinalysis with microscopic examination are recommended during sulfonamide therapy. Insufficient data on children under six with chronic renal disease.

Precautions: Use cautiously in patients with impaired renal or hepatic function, severe allergy, bronchial asthma; in glucose-6-phosphate dehydrogenase-deficient individuals in whom dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

Adverse Reactions: *Blood dyscrasias* (agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia); *allergic reactions* (erythema multiforme, skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis); *gastrointestinal reactions* (nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis); *CNS reactions* (headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia); *miscellaneous reactions* (drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon). Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia as well as thyroid malignancies in rats following long-term administration. Cross-sensitivity with these agents may exist.

Dosage: Systemic sulfonamides are contraindicated in infants under 2 months of age (except adjunctively with pyrimethamine in congenital toxoplasmosis). *Usual adult dosage:* 2 Gm (2 DS tabs or 4 tabs or 4 teasp.) initially, then 1 Gm *b.i.d.* or *t.i.d.* depending on severity of infection.

Usual child's dosage: 0.5 Gm (1 tab or teasp.)/20 lbs of body weight initially; then 0.25 Gm/20 lbs *b.i.d.* Maximum dose should not exceed 75 mg/kg/24 hrs.

Supplied: DS (double strength) tablets, 1 Gm sulfamethoxazole; Tablets, 0.5 Gm sulfamethoxazole; Suspension, 0.5 Gm sulfamethoxazole/teaspoonful.

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Basic therapy with even more convenience and economy:

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Each capsule contains 50 mg. of Dyrenium® (triamterene, SK&F Co.) and 25 mg. of hydrochlorothiazide.

MAKES SENSE

Before prescribing, see complete prescribing information in SK&F Co. literature or PDR. A brief summary follows:

* **Warning**
This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

* **Indications:** When the combination represents the dosage determined by titration: Adjunctive therapy in edema associated with congestive heart failure, hepatic cirrhosis, the nephrotic syndrome. Corticosteroid and estrogen-induced edema, idiopathic edema; hypertension, when the potassium sparing action of triamterene is warranted. (See Box Warning.) Routine use of diuretics in healthy pregnant women is inappropriate; they are indicated in pregnancy only when edema is due to pathological causes.

Contraindications: Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spironolactone is used concomitantly, determine serum K^+ frequently; both can cause K^+ retention and elevated serum K^+. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effect may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

Supplied: Bottles of 100 and 1000 capsules; Single Unit Packages of 100 (intended for institutional use only).

FOR LONG-TERM CONTROL OF HYPERTENSION.* SERUM K^+ AND BUN SHOULD BE CHECKED PERIODICALLY. (SEE WARNINGS SECTION.)

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- 301 UNIVERSITY OF ARIZONA COLLEGE OF MEDICINE, Tucson

ARKANSAS
- 401 UNIVERSITY OF ARKANSAS SCHOOL OF MEDICINE, Little Rock

CALIFORNIA
- 502 UNIVERSITY OF CALIFORNIA SCHOOL OF MEDICINE, San Francisco
- 506 UNIVERSITY OF SOUTHERN CALIFORNIA SCHOOL OF MEDICINE, Los Angeles
- 511 STANFORD UNIVERSITY SCHOOL OF MEDICINE, Palo Alto
- 512 LOMA LINDA UNIV. SCHOOL OF MEDICINE, Loma Linda-Los Angeles

COLORADO
- 702 UNIVERSITY OF COLORADO SCHOOL OF MEDICINE, Denver

CONNECTICUT
- 801 YALE UNIVERSITY SCHOOL OF MEDICINE, New Haven

DISTRICT OF COLUMBIA
- 1001 GEORGE WASHINGTON UNIV. SCHOOL OF MEDICINE, Washington
- 1002 GEORGETOWN UNIVERSITY SCHOOL OF MEDICINE, Washington
- 1003 HOWARD UNIVERSITY COLLEGE OF MEDICINE, Washington

FLORIDA
- 1102 University of Miami School of Medicine, Coral Gables
- 1103 University of Florida College of Medicine, Gainesville

GEORGIA
- 1201 MEDICAL COLLEGE OF GEORGIA, Augusta
- 1205 EMORY UNIVERSITY SCHOOL OF MEDICINE, Atlanta

ILLINOIS
- 1601 Rush Medical College, Chicago
- 1602 UNIVERSITY OF CHICAGO SCHOOL OF MEDICINE
- 1604 The Hahnemann Medical College and Hospital, Chicago
- 1606 NORTHWESTERN UNIVERSITY MEDICAL SCHOOL, Chicago
- 1611 UNIVERSITY OF ILLINOIS COLLEGE OF MEDICINE, Chicago
- 1622 Chicago College of Medicine and Surgery
- 1642 CHICAGO MEDICAL SCHOOL
- 1643 LOYOLA UNIVERSITY STRITCH SCHOOL OF MEDICINE, Chicago

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- 1720 INDIANA UNIVERSITY SCHOOL OF MEDICINE, Indianapolis

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- 1803 UNIVERSITY OF IOWA COLLEGE OF MEDICINE, Iowa City
- 1805 Still College of Osteopathy, Des Moines
- 1806 Drake University College of Medicine, Des Moines
- 1810 Keokuk Medical College, College of Physicians and Surgeons
- 1875 College of Osteopathic Medicine and Surgery, Des Moines

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- 1902 UNIVERSITY OF KANSAS SCHOOL OF MEDICINE, Kansas City
- 1903 Kansas Medical College, Topeka
- 1904 College of Physicians and Surgeons, Kansas City

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- 2002 UNIVERSITY OF LOUISVILLE SCHOOL OF MEDICINE
- 2005 Hospital College of Medicine, Louisville
- 2012 UNIVERSITY OF KENTUCKY COLLEGE OF MEDICINE, Lexington

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- 2105 LOUISIANA STATE UNIVERSITY SCHOOL OF MEDICINE, New Orleans

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- 2301 UNIVERSITY OF MARYLAND SCHOOL OF MEDICINE, Baltimore
- 2307 JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE, Baltimore

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2405 BOSTON UNIVERSITY SCHOOL OF MEDICINE
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2879 Kirksville College of Osteopathy & Surgery
2843 Kansas City College of Medicine and Surgery

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3005 UNIVERSITY OF NEBRASKA COLLEGE OF MEDICINE, Omaha
3006 CREIGHTON UNIVERSITY SCHOOL OF MEDICINE, Omaha
3007 Nebraska College of Medicine, Lincoln

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3546 ALBERT EINSTEIN COLLEGE OF MEDICINE OF YESHIVA UNIVERSITY, New York

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3601 UNIVERSITY OF NORTH CAROLINA SCHOOL OF MEDICINE, Chapel Hill
3605 BOWMAN GRAY SCH. OF MED. OF WAKE FOREST COLL., Winston-Salem
3607 DUKE UNIVERSITY SCHOOL OF MEDICINE, Durham

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3701 UNIVERSITY OF NORTH DAKOTA SCHOOL OF MEDICINE, Grand Forks

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3802 Eclectic Medical College, Cincinnati
3806 WESTERN RESERVE UNIVERSITY SCHOOL OF MEDICINE, Cleveland
3840 OHIO STATE UNIVERSITY COLLEGE OF MEDICINE, Columbus
3841 UNIVERSITY OF CINCINNATI COLLEGE OF MEDICINE

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3901 UNIVERSITY OF OKLAHOMA SCHOOL OF MEDICINE, Oklahoma City

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4107 WOMAN'S MEDICAL COLLEGE OF PENNSYLVANIA, Philadelphia
4109 HAHNEMANN MEDICAL COLLEGE AND HOSPITAL OF PHILADELPHIA
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4113 TEMPLE UNIVERSITY SCHOOL OF MEDICINE, Philadelphia

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4201 University of Puerto Rico School of Medicine, San Juan

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4501 MEDICAL COLLEGE OF SOUTH CAROLINA, Charleston

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4705 VANDERBILT UNIVERSITY SCHOOL OF MEDICINE, Nashville
4706 UNIVERSITY OF TENNESSEE COLLEGE OF MEDICINE, Memphis
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4804 BAYLOR UNIVERSITY COLLEGE OF MEDICINE, Houston
4812 UNIVERSITY OF TEXAS SOUTHWESTERN MEDICAL SCHOOL, Dallas

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4901 UNIVERSITY OF UTAH COLLEGE OF MEDICINE, Salt Lake City

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5002 UNIVERSITY OF VERMONT COLLEGE OF MEDICINE, Burlington

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5104 MEDICAL COLLEGE OF VIRGINIA, Richmond

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5404 UNIVERSITY OF WASHINGTON SCHOOL OF MEDICINE, Seattle

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5501 West Virginia University School of Medicine, Morgantown

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5605 UNIVERSITY OF WISCONSIN MEDICAL SCHOOL, Madison
5606 MARQUETTE UNIVERSITY SCHOOL OF MEDICINE, Milwaukee

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13201 Facultad de Ciencias Medicas de la Universidad de Buenos Aires, Buenos Aires
13204 Facultad de Ciencias Medicas, Farmacia y Ramos Menores de la Universidad Nacional del Litoral, Rosario, Santa Fe
13205 Facultad de Medicina de la Universidad Nacional de Tucuman, Tucuman
13206 Facultad de Ciencias Medicas de la Universidad Nacional de Cuyo, Mendoza, Mendoza

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14302 Faculty of Medicine University of Melbourne, Parkville, Victoria
14303 Faculty of Medicine University of Sydney, Sydney, New South Wales

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15401 Medizinische Fakultat der Universitat Graz, Graz
15407 Medizinische Fakultat der Universitat Wein, Wein

Bangladesh

16001 Chittagung Medical College, Chittagong (704-10 Prior to 7-1-72)

Bolivia

17603 Facultad de Medicina de la Universidad Mayor de San Simon, Cochabamba

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18704 Faculdade de Medicina da Universidade de Sao Paulo, Sao Paulo
18706 Faculdade de Medicina da Universidade de Minas Gerais, Belo Horizonte, Minas Gerais

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6001 University of Alberta Faculty of Medicine, Edmonton

British Columbia

6101 University of British Columbia Faculty of Medicine, Vancouver

Manitoba

6201 University of Manitoba Faculty of Medicine, Winnipeg

Ontario

6501 University of Toronto Faculty of Medicine, Toronto
6505 Queen's University Faculty of Medicine, Kingston

Quebec

6701 McGill University Faculty of Medicine, Montreal

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23101 Facultad de Medicina de la Universidad de Chile, Santiago

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24203 National Peking University, Peking
24209 St. John's University, Shanghai, Kiangsu (Extinct)
24216 National College of Medicine of Shanghai, Shanghai
24217 West China Union University School of Medicine, Chengtu
24222 Aurora University French School of Medicine, Shanghai
24226 National Central University College of Medicine, Nanking, Kiangsu (Extinct)
24239 Shansi University Medical College, Taiyuan, Shansi
24338 National Honan University Medical College, Kaifeng, Honan (24238 Prior to 1-1-71)

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24402 College of Medicine National Taiwan University, Taipei

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26401 Facultad de Medicina de la Universidad Nacional de Colombia Cuidad Universitaria, Bogota, Cundinamarca
26402 Facultad de Medicina de la Universidad de Cartagena, Cartagena, Bolivar
26404 Facultad de Medicina de la Pontificia Universidad Javeriana, Bogota, Cundinamarca
26405 Facultad de Medicina de la Universidad del Valle, Cali, Valle
26406 Facultad de Medicina de la Universidad de Caldas, Manizales, Caldas
26407 Facultad de Medicina de la Universidad del Cauca, Popayan, Cauca

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Czechoslovakia

28602 Fakulta Vseobackeno Lekarstvi Karlova Universita, Katerinska, Praha

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30801 Facultad de Medicina de la Universidad de Santo Domingo, Ciudad, Trujillo
30802 Escuela de Medicina Universidad, Nacional Pedro Henriquez, Urena, Santo Domingo

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31901 Facultad de Ciencias Medicas de al Universidad Central, Quito

Egypt (United Arab Republic)

33002 Kasr-el-Aini-Faculty of Medicine Cairo University, Cairo (Formerly Fouad First University Faculty of Medicine)
33003 Faculty of Medicine Alexandria University, Alexandria
33004 Abbasis Faculty of Medicine, University of Ein Shams, Cairo

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35204 University of Newcastle-upon-Tyne, The Medical School
35205 School of Medicine University of Leeds, Leeds
35207 University of London Faculty of Medicine, London (g) St. Georges Hospital Medical School
35211 Registrable Qualification granted by English Conjoint Board

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38501 Kaohsiung (takau) Medical College, Kaohsiung
38502 College of Medicine National Taiwan University, Taipei
38503 National Defense Med. Center, Taipei, Taiwan
38505 China Medical College, Taichung

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39604 Faculte de Medecine de Montpellier Rue de l'Ecole-de-Medecine, Montpellier, Herault
39606 Faculte de Medecine de l'Universite de Paris, Paris, Seine

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40701 Friedrich-Wilhelms-Universitat Medizinische Fakultat, Berlin, Prussia
40707 Medizinische Fakultat der Georg-August-Universitat, Gottingen, Niedersachsen

40710 Medizinische Fakultat der Universitat Heidelberg, Heidelberg, Baden-Wurttemberg
40715 Medizinische Fakultat der Phillips-Universitat, Marburg/Lahn, Hessen
40716 Medizinische Fakultat der Ludwig-Maximilians-Universitat, Munchen, Bayern
40719 Medizinische Fakultat der Eberhard-Karls-Universitat, Tubingen, Baden-Wurttemburg
40721 Medizinische Fakultat der Universitat Hamburg, Hamburg, Hamburg
40723 Medizinische Fakultat der Johann-Wolfgang-Goethe-Universitat, Frankfurt am Main, Hessen
40726 Medizinische Fakultat der Universitat, Wien, Wien
40733 Medizinische Fakultat der Freien Universitat Berlin, Berlin

Germany West
40933 Medizinische Fakultat Freien Universitat, Berlin, Berlin (407-33 Prior to 1-1-71)

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41802 Faculty of Medicine University of Thessaloniki, Thessaloniki

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42901 Facultad de Ciencias Medicas de la Universidad de San Carlos de Guatemala, Guatemala

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45101 Facultad de Medicine y Cirugia de la Universidad Nacional Autonoma de Honduras, Tegucigalpa

Hungary
47301 Orvosi Fakultas Tudomanyegyetem, Budapest
47302 Orvosi Fakultas Szegedi Orvostudomanyi Egyetem, Szeged

India
49501 University of Bombay, Affiliated Medical Colleges: (b) Seth Gorhandas Sunderdas Medical College Bombay University, Bombay, Maharashtra
49504 Madras Medical College Madras University, Madras, Madras
49505 King George's Medical College, Lucknow University, Lucknow, Uttar Pradesh
49508 Christian Medical College Punjab University, Ludhiana, Punjab
49509 St. John's Medical College, Bangalore, Mysore (before June 1966: Government Medical College, Mysore University, Mysore)
49511 Andhra Medical College Andhra University, Visakhapatnam, Andhra
49516 Stanley Medical College Madras University, Madras, Madras
49521 Osmania Medical College Osmania University, Hyderabad, Andhra
49522 B.J. Medical College Gujarat University, Ahmedabad, Gujarat
49523 Medical College Baroda University, Baroda, Gujarat
49527 Christian Medical College, Vellore, Madras
49528 Byramjee Jeejeebhoy Medical College, Poona, Maharashtra
49529 Government Medical College Punjab University, Patiala, Punjab
49530 Sawai Man Singh Medical College Rajasthan University, Jaipur, Rajasthan
49531 Medical College Kerala University, Trivandrum, Kerala
49533 Government Medical College, Mysore University (Before June 1966 Bangalore Medical College, Mysore University, Bangalore)
49534 Gajra Rajo Medical College Vikram University, Gwalior Madhya Pradesh
49535 Karnatak Medical College Karnatak University, Hubli, Mysore
49536 All-India Institute of Medical Sciences, New Delhi, Delhi
49541 G.S.V. Memorial Medical College Lucknow University, Kampur, Uttar Pradesh
49549 Gandhi Medical College Vikram University, Bhopal, Madhya Pradesh
49555 Sardar Patel Medical College, Bikaner, India
49557 Kakatiya Medical College, Warangal, Andhra Pradesh
49563 Medical College, Kotayam, Kerala
49564 Shree J.S.M.G.A. Medical College, Nadiad, Bombay
49565 Gandhi Medical College, Osmania University, Hyderabad, Andhra

Indonesia
50601 Faculty of Medicine University of Indonesia, Djakarta
50602 Faculty of Medicine Airlangga University, Surabaya
50603 Faculty of Medicine Gadjah Mada University, Djokjakarta

Iran
51701 Faculty of Medicine University of Teheran, Teheran

Iraq
52801 Faculty of Medicine Baghdad University, Baghdad

Ireland

53902 National University of Ireland, Constituent Colleges are:
a. Faculty of Medicine University College, Dublin
b. Faculty of Medicine University College, Cork
c. Faculty of Medicine, Galway

53906 Registrable Qualification granted by the Royal College of Physicians of Ireland and Royal College of Surgeons in Ireland

Italy

56114 Falcolta di Medicina e Chirurgia dell'Universita di Parma, Parma
56115 Facolta di Medicina e Chirurgia dell'Universita di Perugia, Perugia
56117 Facolta di Medicinia e Chirurgia dell'Universita di Roma, Roma
56119 Facolta di Medicina e Chirurgia dell'Universita di Siena, Siena

Japan

57211 Tokyo Medical College (Nippon Ikadaigaku) Hongo, Tokyo
57220 School of Medicine Keio Gijuku University, Tokyo, Tokyo
57241 Faculty of Medicine Shinshu University, Matsumoto, Nagano

Korea

58301 Severance Medical College Yonsei University, Seoul
58302 College of Medicine Seoul National University, Seoul
58304 College of Medicine Kyong-Puk National University, Taegu
58305 Pyongyang Medical College, Pyongyang, North Korea
58306 College of Medicine Chun Nam National University, Kwangiu
58309 College of Medicine Pusan National University, Pusan

Lebanon

60501 Medical School American University of Beirut, Beirut

Lithuania

61601 Vytauta Didziojo Universiteto Medicinos Fakelteto, Kaunas (Extinct)

Mexico

64901 Facultad de Medicina de la Universidad Nacional Autonoma de Mexico, Mexico
64902 Facultad de Medicina de la Universidad de Nuevo Leon, Monterrey, Nuevo Leon
64904 Facultad de Medicina de la Universidad Autonoma de San Luis Potosi, San Luis Potosi, San Luis Potosi
64906 Facultad de Medicina de la Universidad Nacional del Sureste, Merida, Yucatan
64908 Escuela Libre de Homeopatia de Mexico, Mexico
64914 Facultad de Medicina de la Universidad Autonoma de Guadalajara, Guadalajara, Jalisco

New Zealand

67101 Medical School University of Otago, Dunedin

Pakistan

70401 King Edward Medical College, Lahore, West Pakistan
70402 Dow Medical College, Karachi, Federal Capital Area
70403 Dacca Medical College, Dacca, East Pakistan
70404 Nishtar Medical College, Multan, West Pakistan
70405 Punjab Medical School, Lahore, West Pakistan (Extinct)
70409 Khyber Medical College, Peshawar, Northwest Frontier Province

Paraguay

72601 Facultad de Medicina de la Universidad Nacional de a Asuncion, Asuncion

Peru

73701 Facultad de Medicina de San Fernando de la Universidad Nacional Mayor de San Marcos, Lima
73703 Facultad de Medicina de la Universidad de la Libertad, Trujillo
73705 Facultad de Medicina de la Universidad Nacional de San Agustin, Arequipa
73706 Facultad de Medicina "Cayetano Heredia" de la Universidad Peruana de Ciencias Medicas y Biologicas, Lima

Philippines

74801 Faculty of Medicine and Surgery University of Santo Tomas, Manila
74802 College of Medicine, Univ. of the Philippines, Manila
74807 College of Medicine, Manila Central University, Manila
74808 Institute of Medicine Far Eastern University, Manila
74809 College of Medicine Southwestern University, Cebu City
74810 College of Medicine University of the East, Quezon City

Scotland

80301 Faculty of Medicine University of Aberdeen, Aberdeen
80303 Faculty of Medicine University of Edinburgh, Edinburgh
80305 Faculty of Medicine University of Glasgow, Glasgow

South Africa

83601 Medical School University of the Witwatersrand, Johannesburg

Spain

84704 Facultad de Medicina de la Universidad de Madrid, Madrid
84705 Facultad de Medicina de la Universidad de Santiago de Compostela, Santiago De Compostela
84708 Facultad de Medicina de la Universidad de Valencia, Valencia
84710 Facultad de Medicina de la Universidad de Salamanca, Salamanca

Switzerland

86901 Medizinische Fakultat der Universitat Basel, Basel
86902 Medizinische Fakultat der Universitat Bern, Bern
86905 Faculte de Medecine de l'Universite de Lausanne, Lausanne
86907 Medizinische Fakultat der Universitat Zurich, Zurich

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87501 Faculty of Medicine Damascus University, Damascus

Thailand

89101 Faculty of Medicine at Chulalongkorn Hospital University of Medical Sciences, Bangkok
89102 Faculty of Medicine at Siriraj Hospital University of Medical Sciences, Thonburi
89103 Faculty of Medicine at Chiengmai Hospital University of Medical Sciences, Chiengmai

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90201 Tip Fakultesi Istanbul Universitesi, Istanbul
90203 Tip Fakultesi Ankara Universitesi, Ankara

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Averill, Stuart C., Topeka
Aves, Renato B., Parsons
Avila, Oscar A., Dodge City
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Baker, Frederick C., Topeka
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Barnhill, C. Alton, Topeka
Barnhorst, Donald A., Kansas City, Kan.
Barr, Richard N., Prairie Village
Barrick, Bruce, Shawnee Mission
Barry, David R., Leavenworth
Barry, John W., Kansas City, Mo.
Bartlett, Wayne C., Wichita
Bascom, Charles H., East Africa
Bascom, George S., Manhattan
Baser, Ali N., Biloxi, Miss.
Basham, James J., Ft. Scott
Basham, John H., Eureka
Bass, Lewis N., Kansas City, Kan.
Bass, Lewis N., Seattle, Washington
Bass, O. Edward, II, Wichita
*Bates, Michael D., Wichita
Batty, Thomas V., Shawnee Mission
Baude, L. Andre, Topeka
Bauer, Thomas A., Hutchinson
Baum, Arnold H., Dodge City
Bauman, M. Leon, Wichita
Baumann, Paul A., Wichita
Baxter, W. Reese, Salina
Bayles, Hugh G., Fredonia
Beach, Richard R., Topeka
Beahm, Anol W., Great Bend
Beahm, Donald E., Great Bend
Beahm, Edgar H., Independence
Beal, Raymond J., Fredonia
Beale, David A., Topeka
Beaty, James A., Topeka
Beaver, James L., Wichita
Bebak, Donald M., Wichita
Beck, Joseph D., Topeka
Becker, Leslie E., Kansas City, Kan.
Bedford, D. R., Topeka
Beebe, Edmer, Olathe
Beelman, Floyd C., Topeka
Beggs, David F., Garden City
Behling, Helmut H., Out of State
Behrhorst, Carroll D.,
Guatemala, Central America
Beiderwell, Paul L., Belleville
Belcher, George D., Columbus
Bell, Deloris J., Shawnee Mission
*Bell, John D., Wichita
Bell, Margaret E., Lawrence
Bellar, Ralph E., Harper
Beller, Willis L., Topeka
Belot, Monti L., Lawrence
Belzer, Edward G., Prairie Village
Bena, James H., Pittsburg
Benage, John F., Ft. Scott
Bennett, Charles A., Leavenworth
Benton, Jay S., Newton
Bergin, James J., Kansas City, Kan.
Berkey, Vernon A., Pittsburg
Berkley, Don H., Abilene
Berkley, Norman W., Seneca
Berner, Neal E., WaKeeney
Bethel, Chandler S., Wichita
Bettinger, Irene E. H., Kansas City, Kan.
Bice, Francis J., Marathon, Florida
Bichlmeier, Franklin G., Kansas City, Kan.
Bieri, Peter V., Lawrence
Bierlein, Kenneth J., Pittsburg
Biermann, Aloysius H., Garden Plain
Biermann, Henry J., Wichita
Biermann, William J., Wichita
Bigler, F. Calvin, Garden City
Bigongiari, Lawrence R., Kansas City, Kan.
Billings, Thomas, McPherson
Billingsley, John A., Jr., DeSoto
Billingsley, Thad H., Shawnee Mission
Binyon, Kernie W., Wichita
Bishop, Francis E., Prairie Village
Bittenbender, Lee R., Lawrence
Bitzer, Donald A., Washington
Black, Cyril V., Pratt
Black, James F., San Antonio, Tex.
Black, William L., Denver, Colo.
Blackburn, Robert W., Council Grove
Blair, Richard, Lawrence
Blake, Henry S., Topeka
Blank, John N., Hutchinson
Blaylock, Hoyt C., Wichita
Bletz, Donald B., Shawnee Mission
Bliss, Joy V., Olathe
Blood, Mary J., Wichita
Bloom, L. Theil, Kingman
Blount, Justin A., Larned
Boese, Kenneth M., Manhattan
Boggan, Michael D., Kansas City, Kan.
Boles, J. Michael, Shawnee Mission
Boles, R. Dale, Dodge City
Bolinger, Robert E., Kansas City, Kan.
Bollman, Charles S., Junction City
Bolton, Victor E., Kansas City, Kan.
Bond, Roger C., Wichita
Bone, Roger C., Kansas City, Kan.
Borgendale, Llewellyn V., Wamego
Borklund, Maurice K., Parsons
Borra, Mario J., Hutchinson
Bos, Norman C., Hutchinson
Bosilevac, Fred N., Kansas City, Kan.
Bosse, Frank K., Atchison
Botkin, M. Michael, Manhattan
Boudet, Robert A., Kansas City, Kan.
Boudreaux, V. J., Halstead
Bowen, Clovis W., Topeka
Bowen, Harry J., Topeka
Bowman, Harold S., Wichita
Boyd, G. Bryant, Hutchinson
*Boyd, Spencer H., Topeka
Boyd, Zane R., Wichita
Boyden, Mary S., Lawrence
Boyer, Robert E., Kingman
Boyle, Hugh H., Wichita
Brackett, Charles E., Kansas City, Kan.
Braden, Bill L., Wamego
Bradley, H. Russell, Emporia
Bradley, J. Roderick, Greensburg
Brady, Charles S., Atchison
Brake, David, Wichita
Braley, Jack A., D.O., Arkansas City
Brandsted, Ernest C., McPherson
Branson, Vernon L., Lawrence
Brathwaite, Harold M., Kansas City, Kan.
Braun, Edward W., Fort Scott
*Braun, Thomas G., Wichita
Braun, William T., Pittsburg
Braun, William T., III, Wichita
Braunsdorf, Robert L., Topeka
Bray, Avis P., Concordia
Bray, E. Dean, Lawrence
*Breckbill, David L., Wichita
Brenner, William R., Larned
Brethour, Leslie J., Junction City
Brewer, Marshall A., Ulysses
Brian, Robert M., El Dorado
Bribach, Eugene J., Atchison
Bridgens, James G., Shawnee Mission
Bridwell, Russell E., Topeka
Brillhart, Maxine T., Kansas City, Kan.
*Brinton, Edward H., Wichita
Brinton, Edward S., Wichita
Brito, Raul E., Wichita
Brockhouse, John P., Emporia
Brooker, Robert M., Topeka

Brosius, Frank C., Wichita
Broucek, Francis J., Topeka
Brower, Anne C., Kansas City, Kan.
Brown, Alex, Wichita
Brown, C. Everett, Stafford
Brown, C. Reiff, Great Bend
Brown-Sanders, Caroline, Lee's Summit, Mo.
*Brown, David J., Wichita
Brown, Fred E., St. Marys
Brown, Harwin J., Winfield
Brown, Paul W., Olathe
Brown, Robert L., Wichita
Brown, Robert M., Manhattan
Brown, Robert O., Atchison
Brown, Robert W., Kansas City, Kan.
Brown, Ronald C., Wichita
Brown, Ronald L., Wichita
Brown, Val J., Wichita
Brown, Virgil E., Sabetha
Brown, William R., Prairie Village
Browning, William H., Wichita
Brownrigg, Richard L., Dodge City
Brummett, Richard R., Neodesha
Bruner, Kenneth W., Jr., Goddard
Bruner, Steven C., Lawrence
Brungardt, Bernard A., Salina
Bruno, James W., Garden City
Bryan, Emery C., Erie
Bryant, Homer L., Coffeyville
Buakham, Chana, Kansas City, Kan.
Bubb, Stephen K., Kansas City, Kan.
Bubeck, Ralph W., Wichita
Buck, Ben H., Wichita
Buck, Henry W., Lawrence
Budetti, Joseph A., Wichita
Bula, Ralph E., Hays
Bullock, Harold O., Independence
Bunker, Herbert L., Junction City
Burdick, Bruce M. Manhattan
Burger, J. Dale, Hutchinson
Burger. Paul B., Shawnee Mission
Burger, William E., Kansas City, Kan.
Burgeson, Frank G., Emporia
Burgess, Arthur P., Oswego
Burke, James J., Ft. Scott
Burke, Joseph V., Atchison
Burket, George E., Jr., Kansas City, Kan.
Burket, Ivan R., Ashland
Burkman, Reuben J., Chanute
Burnett, A. Dean, Halstead
Burney, William W., Wichita
Burpee, James F., Wichita
Busch, Anthony B., Dodge City
*Bustamante, Sergio A., Wichita
Butcher, Archie W., Abilene
Butcher, Thomas P., Emporia
Buth, Dennis K., Wichita
Butin, J. Walker, Wichita
Butt, Muhammad M., Concordia
Button, Jesse H., Lawrence

C

Cable, Thomas M., Versailles, Ky.
Cain, Ivan W., Prairie Village
Calderon, Jaime, Overland Park
Calderwood, William, Salina
Caliendo, Daniel J., Jr., Wichita
Calkins, Larry L., Prairie Village
Calkins, William G., Kansas City, Mo.
Cameron, William J., Kansas City, Kan.
Campbell, Edward G., Emporia
Campbell, Frances S., Newton
Campbell, Garland L., Arkansas City
Campbell, William H., Coffeyville
Campion, Woodrow M., Liberal
Canellos, James, Goessel
Caple, Elbert M., Great Bend
Capooth, L. Wayne, Topeka
Capper, Stanley L., Wichita
Capsey, Roswell E., Centralia
Carbaugh, Kenneth W., Bella Vista, Ark.
Carduff, Jay J., Shawnee Mission
Carey, Larry J., Kansas City, Kan.
Carleton, Richard C., Clay Center
Carlson, Earl V., Hays
Carman, Dean R., Quinter
Carney, Myrtle S., Ft. Worth, Texas
Carpenter, Paul R., Kansas City, Kan.
Carper, Ivan H., Newton
Carper, Owen E., Newton
Carrasco, Lenore C., Shawnee Mission
Carreau, Ernest P., Wichita
Carro, Francisco A., Winfield
Carter, Dorothy L., Topeka
Carter, Mack A., Wichita
Carter, Robert P., Jr., Kansas City, Kan.
Carver, Larry A., Topeka

* Probationary members.

Casady, Gilbert N., Hutchinson
Casey, John J., Wichita
Cashman, Maurice R., Jr., Topeka
Casteel, Charles K., Kansas City, Kan.
Cauble, Wilbur G., Wichita
Cavanaugh, Clair J., Great Bend
Cavanaugh, John W., Topeka
Cavitt, Robert F., Shawnee Mission
Cawley, Leo P., Wichita
Cecil, John, III, Hays
Cenac, Mark T., Leavenworth
Chaffee, Dean C., Abilene
Chalian, Alexander R., Kansas City, Kan.
Chamberlin, Cecil R., Topeka
Chaney, Ernie J., Belleville
Chang, C. H. Joseph, Kansas City, Kan.
Chang, Frederic C., Wichita
Chang, Shu-Fang, Shawnee Mission
Chanpong, Sala, Leavenworth
Chapman, James H., Wichita
Chappuie, William G., Independence
Chard, Frederick H., Wichita
Chavalithamrong, Hansa, Hays
Chediak, Elias, Lawrence
Chen, John, Hutchinson
Chen, Tak-Ming, Topeka
Chenoweth, John R., D.O., Olathe
Cherner, Abraham M., Kimberling City, Mo.
Cherry, Arthur C., Topeka
Cheung, Philip W. Hong, Topeka
Chin, Tom D. Y., Kansas City, Kan.
Chiu, Chu-shin, Wichita
Cho, Cheng T., Kansas City, Kan.
Chonko, Arnold M., Kansas City, Kan.
Chotimongkol, Anupong, Dodge City
Choudhury, M. Hasan, Coldwater
Chow, Stanley L. Y., Ft. Scott
Choy, James K. L., Topeka
Christensen, Marion D., Kiowa
Christian, Stanley J., Kansas City, Kan.
*Christman, Carl, Jr., Wichita
Chronister, Bert, Neodesha
Chubb, Richard M., Baxter Springs
Chun, Chung S., Kansas City, Kan.
Chung, John J., Sharon Springs
Ciskey, William J., Eureka
Claiborne, Richard H., Baxter Springs
Clark, Courtney, Wichita
Clark, Craig N., Topeka
Clark, David H., WaKeeney
Clark, Laurence A., Wamego
Clark, Loella E., Newton
Clark, Margaret G., Lawrence
Clark, Orville R., St. Petersburg, Fla.
Clark, Ray A., Lawrence
Clark, Shirley E., Topeka
Classen, Milton A., Newton
Clifton, H. David, Wichita
Clinton, Dale L., Lawrence
*Clyde, H. Robert, Wichita
Coale, Lloyd H., Kansas City, Kan.
Cobb, Leslie H., Mulvane
Cochran, Paul W., Topeka
Coe, Richard O., Prairie Village
Coffey, Roy B., Salina
Cohen, Louis, Topeka
Cohen, Robert A., Prairie Village
Cohen, Sidney, Topeka
Cohlmia, Jerry B., Wichita
Cohn, Steven G., Overland Park
Cohnberg, Rosellen E., Cedar Vale
Cokeley, John M., Topeka
Coker, Grady N., Hutchison
Coldsmith, Donald C., Emporia
Cole, Ward M., Wellington
Coleman, Gary W., Abilene
Coleman, Thomas J., Wichita
Colip, Floyd M., Norton
*Collier, Harold W., Wichita
Collier, William J., McPherson
Collins, Dean T., Topeka
Collins, Francis T., Topeka
Combs, G. Ralph, Leavenworth
Conard, Clair C., Dodge City
Conard, Richard F., Emporia
Concepcion, Eugenio S., Jr., Wichita
Conklin, Kenneth E., Abilene
Connelly, John C., Topeka
Conrardy, Peter A., Wichita
Conroy, Robert W., Topeka
Cook, D. Ray, Wichita
Cook, G. Edward, Wichita
Cook, James D., Kansas City, Kan.
Cooke, Allan R., Kansas City, Kan.
Coomer, Tyler E., Pittsburg
Cooper, Arthur E., Norton
Cooper, Jack R., Shawnee Mission
Cooper, Kent J., Pittsburg
Cooper, Leo F., Kansas City, Kan.
Copeland, Gary A., Junction City
Copening, Teil B., Iola

Corbin, Murray D., Shawnee Mission
Cordell, Larry D., Shawnee Mission
Corder, Robert L., Highland
Cornely, John F., Osborne
Corrigan, George F., Wichita
Cossman, F. Price, Wichita
Cotton, Robert T., Topeka
Couch, James R., Jr., Kansas City, Kan.
Coulter, Henry F., Mission
Coulter, Thomas B., Kansas City, Mo.
Covert, Thomas J., Salina
Cowles, George E., Wichita
Cowles, Gordon T., Wichita
Cox, Ira, Jr., Shawnee Mission
Cox, Ira L., III, Kansas City, Kan.
Cox, Robert H., Hays
Cox, Wallace F., Kansas City, Kan.
Coyle, John F., Coffeyville
Craig, Charles C., Ft. Lee, Va.
Cram, Ernest R., St. Francis
Cram, Ole R., Jr., Larned
Cramer, Guy W., Parsons
Cramm, Russell E., Hays
Crane, C. Herbert, Manhattan
*Crane, David D., Wichita
Crary, John E., Topeka
Crawford, Robert A., Hutchinson
Crist, Robert D., Kansas City, Kan.
*Criswell, Mildred L., Wichita
Crockett, Charles A., Kansas City, Kan.
Cronemeyer, Richard L., Kansas City, Mo.
Cronin, Donald J., Wichita
Cross, Donald E., Kansas City, Mo.
Crouch, Steven W., Kansas City, Mo.
Crouch, William H., Topeka
Crow, Ernest W., Wichita
Crowley, Edward X., Wichita
Cudnik, Daniel B., Winfield
Culp, Louis M., Kansas City, Kan.
Cultron, Frank T., Salina
Culver, Warren T., Lawrence
Cummings, Richard J., Wichita
Curran, Donald J., D.O., Olathe
Curran, Kevin E., Shawnee Mission

D

Daehnke, Sigurd S., Winfield
Dahl, Asher W., Colby
Dailey, Ronald F., Johnson
Daniels, Robert M., Valley Center
Darr, Richard B., Shawnee Mission
Daugherty, Robert M., Meade
Davenport, S. Scott, Wichita
Davidson, Harry T., Wichita
Davis, Christopher G., Kansas City, Kan.
Davis, David H., Larned
Davis, David R., Emporia
Davis, George R., Ellsworth
Davis, James W., Jr., Kansas City, Kan.
*Davis, Paul H., Wichita
Davis, Richard E., Shawnee Mission
Davis, Ronald B., Wichita
Day, Hughes W., Kansas City, Kan.
Dean, David B., Topeka
DeBakker, Jan B., Wichita
DeBriere, Sidney L., Parsons
DeChairo, Thomas, Westmoreland
Decker, Donald D., Halstead
*Deckert, Rosalie E., Wichita
Degner, James B., Great Bend
Deitz, Michael R., Kansas City, Kan.
DeJong, David C., Wichita
Delgado, Sergio T., Topeka
Dellett, Kenneth B., El Dorado
Delp, Mahlon H., Kansas City, Kan.
Delphia, Robert E., Olathe
*DeMoss, Eleanor P., Wichita
DeMott, Wayne R., Shawnee Mission
Denison, Terry R., Mission
Depenbusch, Francis L., Hutchison
Depoe, Joseph H., Winfield
Derrington, Kenneth L., Shawnee Mission
*Desai, Mohan G., Wichita
DeTar, George F., Iola
Diacon, James L., Wellington
Diallo, Gaston I., Kansas City, Kan.
Dick, Arthur R., Kansas City, Kan.
Dick, Henry J., Jr., Chanute
Dick, Willis G., Iola
Dickerson, Robert M., Garden City
Dickerson, Shelby C., Kansas City, Kan.
Dickinson, Charles R., Coffeyville
Diederich, Dennis A., Kansas City, Kan.
Diehl, Antoni M., Kansas City, Kan.
Diener, Clayton H., Hesston
Dillenbeck, Floyd E., Sun City, Arizona
Diver, Robert W., Coffeyville
Dlabal, Frank A., Wilson
Doak, Roger S., Dodge City
Dobratz, Robert A., Beloit
Dockhorn, Robert J., Prairie Village

Dodson, William W., Ulysses
Doherty, William R., Shawnee Mission
Donahoe, Dorval H., Meade
Donnell, James M., Wichita
Doornhos, J. Fred, Wichita
Douhek, Herbert D., Belleville
Dougherty, Thomas M., Garnett
Douthit, John D., Manhattan
Dowell, James C., Salina
Dozier, Fred S., Herington
Draemel, H. Richard, Salina
Drake, Douglas J., Beloit
Drake, Ralph L., Wichita
Dreher, Henry S., Salina
Drevets, Curtis C., Wichita
Duckett, Thomas G., II, Shawnee Mission
Duckett, Thomas G., Hiawatha
Dudding, Burton A., Kansas City, Kan.
Duffles-Andrade, Marcio, Haven
*Duick, Gregory F., Wichita
Dujovne, Carlos A., Kansas City, Kan.
Dunagin, Jack A., Topeka
Dunlap, Richard L., Lawrence
Dunn, Marvin I., Kansas City, Kan.
Dunshee, Carlyle M., Ft. Scott
Durano, Antonio C., Wichita
Durkee, William R., Manhattan
Durst, Robert D., Jr., Topeka
Duysak, Sami, Leavenworth
Dyck, Arthur H., McPherson
Dyck, Cora E., Wichita
Dyck, George, Wichita
*Dyer, Vernon E., Wichita

E

Eaton, Glen E., Salina
Eaton, Leslie F., Salina
Eckart, DeMerle E., Hutchinson
Eckert, William G., Wichita
Eddy, Murray C., Hays
Eddy, Victor M., Hays
Edwards, David J., Emporia
Edwards, Manis C., Wichita
Egea, Fernando M., Kansas City, Kan.
Egelhof, Richard H., Wichita
Eichhorn, Frank D., Garden City
Eidt, David W., Olathe
Eidt, Laurence A., Olathe
Eikermann, William C., Kansas City, Kan.
Elder, Douglas M., Topeka
Elledge, E. Fred, Great Bend
Ellis, Harvey D., Wichita
Ellis, Stephen S., Coffeyville
Elnen, Walter T., Wichita
*Elneser, Rafael, Wichita
Emery, Frank A., Wichita
Emmot, William W., Independence
Empson, Charles L., Independence
Enberg, Robert N., Hays
Enders, Wray, Lenexa
Enns, Eugene K., Newton
Enns, James H., Newton
Ens, G. George, Hillsboro
Ens, Peter D., Hillsboro
Ensey, T. Cranford, Marion
Erickson, Clarence W., Pittsburg
Erken, Ronald V., Wichita
Esch, John G., Pittsburg
Esrig, Harold L., D.O., Leawood
Etzenhouser, Russell D., Shawnee Mission
Evans, Farris D., Wcihita
Evans, Grant E., Wichita
*Evans, Kenneth L., Wichita
Evans, William E., Shawnee Mission
Evans, William R., Great Bend
Ewing, Thomas D., Larned

F

Fairchild, John A., Manhattan
Falter, Richard T., Hutchinson
Farha, George J., Wichita
Farha, S. Jim, Wichita
Farrar, William H., Jr., Arkansas City
Fast, Robert E., Atchison
Fast, W. Spencer, Atchison
Feagan, Jerry H., Topeka
Feighny, Robert E., Salina
Felt, Samuel E., Shawnee Mission
Fender, Thomas H., Wichita
Fent, Lee S., Newton
Fernandez, Luis A., Topeka
Fernie, Robert W., Hutchinson
*Ferris, Bruce G., Wichita
Field, Richard A., Topeka
Fieldman, E. Jay, Wichita
Fields, Galen W., Scott City

* Probationary members.

Fieser, Carl W., Great Bend
Filbert, Charles G., D.O., Great Bend
Filley, Vernon W., Pratt
Fillman, Eldon M., Topeka
Fink, A. Arthur, Topeka
Finley, Dennis R., Wichita
Firkins, Richard T., Wichita
Fischer, Rex R., Manhattan
Fisher, James B., Wichita
Fitzgerald, Edward J., Wichita
Fitzgerald, Edward L., Lilburn, Georgia
Fitzpatrick, M. Robert, Kansas City, Kan.
Fixley, Mark S., Overland Park
Flanders, H. Alden, Hays
Fleckenstein, Charles S., Onaga
*Fleming, Forney W., Wichita
Floersch, Hubert M., Kansas City, Kan.
Flowers, Clell B., Wichita
Ford, Charles R., Wichita
Ford, Fred L., Topeka
Foret, John D., Kansas City, Kan.
Forster, Louis G., Salina
Fortune, Cedric B., Olathe
Foss, Daniel C., Hutchinson
Foster, Charles G., Topeka
Foster, D. Bernard, Topeka
Foster, Frances M., Kansas City, Kan.
Fowler, James T., Kansas City, Mo.
Fowler, Robert J., Wichita
Fowler, Wayne L., Concordia
Fox, Howard A., Kansas City, Kan.
Francis, Norton L., Wichita
Francisco, Clarence L., Kansas City, Kan.
Francisco, W. David, Kansas City, Kan.
Fransen, Herbert, Newton
Fransen, Paul H., Newton
Franz, Robert G., Hillsboro
Frazier, Richard L., Emporia
Frederick, Mac F., Hugoton
Fredrickson, Duane E., Lindsborg
Freeborn, Warren S., Clyde
Freeman, F. Giles, Pratt
Freeman, Fred A., Manhattan
Freeman, Raymond S., Salina
Fretz, William D., Shawnee Mission
Friesen, Dale, Lawrence
Friesen, Florence C., Hesston
Friesen, Orlando J., Buhler
Friesen, Stanley R., Kansas City, Kan.
Friggeri, Robert W., Girard
Fritz, George E., Wichita
Fritzemeier, William H., Wichita
Fromm, Arthur H., Wichita
Fry, Luther L., Dodge City
Fullen, Jeryl G., Merriam
Fuller, Deryl D., Lindsborg
Fulton, John K., Wichita
Funes, Carlos A., Emporia
Funk, Edward D., Linwood

G

Gabatin, Angelita S., APO San Francisco, Calif.
Gabatin, José Q., APO San Francisco, Calif.
*Galichia, Joseph P., Wichita
Gallehugh, Keith W., Kansas City, Kan.
Galvan, Alonso, Wichita
Gann, E. Lamonte, Emporia
Gans, Frederick A., Salina
Ganzarain, Ramon C., Topeka
Garcia, Francisco M., Overland Park
Garcia, Gould C., Emporia
Gardner, Glenn M., Shawnee Mission
Garth, Karen E., Kansas City, Kan.
Garza, A. Cesar, Topeka
Gateno, Joseph, Great Bend
Gay, John D., Topeka
Gehrt, Earl B., Chanute
Geitz, James M., Emporia
Gelvin, E. Raymond, Concordia
Gench, Raymond L., Carmel, Calif.
Gendel, Evalyn S., San Francisco, Calif.
Gendel, Joseph, Topeka
Gentry, Kale C., Overland Park
George, Earl F., Wichita
George, M. Don, Wichita
Gerber, Harry A., Leavenworth
Gerjarusak, Prapas, Leavenworth
Gessler, Donald J., Wichita
Gettler, Dean T., Ft. Scott
Gilbert, J. Howard, Seneca
Gilbert, John H., II, Garden City
Gilbert, Roberta M., Prairie Village
Gilhousen, Frederic M., Kansas City, Kan.
Gill, Bruce D., Coronado, Calif.
Gill, George L., Lampe, Mo.
Gillen, Billy A., Prairie Village
Gilles, Helen M., Lawrence
Gilliland, James O., Herington
*Gilmartin, Richard C., Wichita

Gilmore, Clarence A., Kansas City, Kan.
Ginavan, Duane A., Emporia
Girod, Charles I., El Dorado
Givner, David, Wichita
Glazzard, Charles D., Olathe
Gleason, Jimmie A., Topeka
Glenn, James N., Emporia
Glenn, Lyle G., Protection
Glover, Richard M., Newton
Godfrey, Robert G., Kansas City, Kan.
Godfrey, William A., Kansas City, Kan.
Godwin, Phillip A., Lawrence
Goering, Donald D., Salina
Goering, Emil L., Topeka
Goering, Robert C., Wichita
Goertz, Leo R., Kansas City, Kan.
Gohil, Mahendra N., McAllen, Tex.
Goldberg, Herbert R., Wichita
Goldstein, Nathan, III, Kansas City, Kan.
Gollerkeri, Mohan P., Shawnee Mission
Gollier, Robert A., Ottawa
Gollier, Robert A., II, Ottawa
Gomel, Ray G., Washington
Gomez, Francisco, Shawnee Mission
Gomez, Modesto S., Pittsburg
*Gonzalez, Francisco, Wichita
Gonzalez, Giomar, Kansas City, Kan.
Gonzalez, Hiram, Wichita
Good, James T., Ft. Scott
Good, Wendell L., Overland Park
*Goodin, Ethelynn A., Wichita
*Goodin, Walker D., Wichita
Goodpasture, Hewitt C., Wichita
Goodpasture, W. Carter, Hutchinson
Gootee, Joseph E., Topeka
Goto, Hiroshi, Kansas City, Kan.
Gouldner, Rene M., Wichita
Goyle, Krishan K., Wichita
*Goyle, Vimal, Wichita
Gradinger, Billens C., Halstead
Grady, Kenneth L., Prairie Village
Graham, Charles P., Topeka
Graham, J. Malcolm, Leavenworth
Graham, Kenneth L., Leavenworth
Graham, Thomas W., Leavenworth
Grantham, Jared J., Kansas City, Kan.
Grauel, Charles W., Wichita
Grauel, Truman W., Wichita
Graves, Jack W., Wichita
Gray, C. Lucien, Wichita
Gray, David E., Topeka
Gray, H. Thomas, Wichita
Grayih, Antoine S., Topeka
Grayson, Roy D., Alhuquerque, N. M.
Green, Lawrence C., Arkansas City
Greenherg, M. Taylor, Prairie Village
Greenherger, Norton J., Kansas City, Kan.
Greenhurg, George, Garden City
Greenburg, Mark, Topeka
Greene, Horace T., Topeka
Greenwood, Edward D., Topeka
Greer, Richard H., Topeka
Gregory, Arlene, Pittsburg
Grihble, Robert N., Wichita
Griffin, Somsri, San Angelo, Tex.
Griffing, Richard B., Salina
Grigsby, George T., Jr., Topeka
Grigshy, Kenneth R., Sun City, Ariz.
Grillot, Floyd B., Wichita
Grimes, I. Ross, Liberal
Grimes, James T., Lyons
Gripkey, Clarence A., Kansas City, Kan.
Grisolia, Andres, Leavenworth
Griswold, Dale G., Newton
*Grohs, Heinz K., Wichita
Grove, John A., Newton
Grove, John L., Newton
Grove, William E., Newton
Growney, John T., Atchison
Gruendel, Richard A., Kansas City, Kan.
Gruendel, Virgina T., Kansas City, Kan.
*Grund, Frank M., Wichita
Grushnys, Arnold, Wichita
Gsell, George F., Wichita
Guerra, Tomas H., Marion
Gumucio, Mario L., Kansas City, Kan.
Gunn, Marvin R., Salina
Gunter, Carl C., Quinter
*Gunther, Loretto A., Wichita
Guthrie, Richard A., Wichita

H

Ha, Sang W., Coffeyville
Haas, Charles D., Kansas City, Kan.
Hahersang, Rolf W. O., Kansas City, Kan.
Hadley, Delmont C., Ottawa
Haerle, Henry S., APO, New York
Haffner, William N., Augusta
Hagan, C. Thomas, Wichita

Hagan, Francis J., Wichita
Haigler, James P., Hays
Haines, Chester W., Haven
Haines, Robert A., Topeka
Hale, Ralph, Wichita
*Hall, J. Roger, Wichita
Hall, Jerry D., Anthony
Hall, Wesley H., Girard
Halley, M. Martin, Topeka
Halling, L. William, Hays
Halpin, Edward D., Wichita
Halvorson, Howard C., Olathe
Hamilton, James J., WaKeeney
Hamm, Orval L., Sialkot, Pakistan
Hammeke, John C., Leavenworth
Hammel, George W., El Dorado
Hamtil, Lawrence W., Prairie Village
Han, Chan S., Coffeyville
Hancock, Alan C., Kansas City, Kan.
Hanson, David C., Iola
Hara, Glenn S., Kansas City, Kan.
Hard, Benjamin F., Prairie Village
Hardin, Creighton A., Kansas City, Kan.
Hardman, Dennis A., Grand Island, Neb.
Harms, Albert C., Shawnee Mission
Harms, Edwin M., Wichita
Harms, Wilmer A., Halstead
Harned, Bert W., Shawnee Mission
Harpster, Gene O., Leawood
Harris, Claib B., Garnett
Harris, Frank H., Wichita
Harris, Hubert L., Topeka
Harris, Norman R., Salina
Harris, Norvan D., Liberal
Harris, Patricia A., Topeka
Harrison, Alvie B., Wichita
Harrison, Hall E., Topeka
Hart, Dillis L., Wichita
Hart, Lawrence E., Atchison
Hartenbower, Carey A., Salina
Hartley, Fount K., Honolulu, Hawaii
Hartley, Roy W., Norton
Hartman, Charles R., Kansas City, Kan.
Hartman, Gerald V., Kansas City, Kan.
Hartman, Roger L., Norton
Hartocollis, Peter, Topeka
Harvey, John E., Emporia
Harvey, Rosemary B., Wichita
*Harvey, Thomas S., Wichita
Harwood, Claude J., Glasco
Haskins, Robert J., Chanute
Hasselle, James E., Topeka
Hastings, Mary T., Shawnee Mission
Haswell, Glenn L., Kansas City
Hathaway, Peter, Kansas City, Kan.
Hatton, Donald W., Lawrence
Hatton, Lloyd W., Salina
Hattrup, Richard J., Wichita
Havenhill, Marshall A., Emporia
Hawkey, Alfred S., Newton
Hawley, Raymond G., Wichita
Hayden, Abigail, Fredonia
Hayes, William L., Wichita
Heard, Kenneth M., Garden City
Heasty, Robert G., Manhattan
Hebbar, Satya N., Topeka
Hedrick, Kenneth E., Hutchinson
Heins, Lawrence G., Abilene
Henderson, Charles F., Parsons
Henderson, John M., Kansas City, Mo.
Henneberger, Charles E., Atwood
Henning, Calvin W., Ottawa
Henning, Charles E., Wichita
Hensleigh, Paul A., Stanford, Calif.
Hensley, Cline D., Wichita
Hered, John, Wichita
Hermann, Charles G., Parsons
Hermes, Richard L., Lawrence
Hermreck, Arlo S., Kansas City, Kan.
Hernandez, Alexander M., Garden City
Herrera, Jorge J., Topeka
Hershorn, Simon E., Wichita
Herzon, Charles D., Shawnee Mission
Hesse, Robert S., Wellington
Hesser, Herbert H., Shawnee Mission
Hiebert, Abraham E., Wichita
Hiebert, David L., Lawrence
Hiebert, John B., Topeka
Hiebert, Peter E., Kansas City, Kan.
Hiesterman, Herman W., Quinter
Higgins, Ronald A., Shawnee Mission
Hildyard, Victor H., Colby
Hildyard, Victor H., II, Colby
Hilgers, Jack E., Hays
Hill, James E., Arkansas City
Hill, John J., Hutchinson
Hill, Phillip K., Newton

* Probationary members.

Hill, Richard H., Meade
Hill, Robert N., Topeka
Hinshaw, Alfred H., Wichita
Hinshaw, Charles T., Wichita
Hinshaw, Charles T., Jr., Hutchinson
Hinshaw, Edgar D., Arkansas City
Hinthorn, Daniel R., Kansas City, Kan.
Hiratzka, Tomiharu, Wichita
Hird, Wayne E., Lawrence
Hirsch, Martin S., Overland Park
Hirschberg, J. Cotter, Topeka
Hizon, Ramon R., Wichita
Hobbs, Donald D., Topeka
Hobson, Milburn W., Shawnee Mission
Hodes, Herbert C., Hutchinson
Hodges, Bruce P., Lenexa
Hodges, Glenn R., Kansas City, Kan.
Hodges, Merle A., Salina
Hodson, Hervey R., Wichita
Hofer, DeWayne D., Concordia
Hoffer, John G., Medicine Lodge
Hoffman, Jerry W., Shawnee Mission
Hoherz, David G., Topeka
Holbert, Leland L., Kansas City, Kan.
Holcomb, Donald G., Los Angeles, Calif.
Holcomb, William M., Liberal
Holdcraft, Jacquelyne, Kansas City, Kan.
Holden, Raymond F., Wichita
Holderman, Wallace D., Hutchinson
Holladay, Harmon M., Wichita
Holleman, James F., Jr., D.O., Kansas City, Kan.
Hollowell, Joseph G., Jr., Kansas City, Kan.
Holman, Jon B., Salina
Holmes, Frederick F., Kansas City, Kan.
Holmes, Grace E., Kansas City, Kan.
Holsinger, Donald M., Pittsburg
Holt, John M., Great Bend
Holt, Robert G., Halstead
Hoofer, Wilford D., Halstead
Hoogstraten, Barth, Kansas City, Kan.
Hopke, Harold L., Sedro Woolley, Wash.
Hopkins, B. Morris, Scott City
Hopkins, Lenly T., Overland Park
Hopkins, William O., Merriam
Hopper, Charles R., Emporia
Horbelt, Douglas V., Wichita
Horne, James B., Topeka
Horseman, Robert F., Shawnee Mission
Hostetter, Philip H., Manhattan
Howard, Donald O., Wichita
Howard, W. Robert, Arkansas City
Howerter, Bernard E., Jr., Coffeyville
Hoyle, Winthrop E., Winfield
Hoyt, Arthur W., Topeka
Hsu, Cheng-Chih, Lawrence
Hsu, Cheng H., Topeka
Huaman, Antonio, Topeka
Hudson, James R., Chanute
Hudson, Robert P., Kansas City, Kan.
Huebert, Dean A., Wichita
Huerter, David F., Pittsburg
Huerter, Quentin C., Kansas City, Kan.
Huff, John D., Kansas City, Kan.
Huffman, David H., Kansas City, Mo.
Hughes, Robert W., Lawrence
Hull, Kenneth, Wichita
Hull, Norman E., Hays
Hultgren, Myron K., Wichita
Hume, Joseph W., Wichita
Hummer, Lloyd M., Wichita
Humphrey, Loren J., Kansas City, Kan.
Hunnicutt, Cecil C., Sabetha
Hunter, James S., Jr., Manhattan
Hurst, Thomas C., Wichita
Hurwitz, Aryeh, Kansas City, Kan.
Hustead, Robert F., Wichita
Huston, Francis W., Winchester
Huston, Joseph W., Topeka
Hutchison, Glen C., Hays
Hutton, Frederick A., Topeka
Huycke, M. Maureen, Kansas City, Kan.
Hwa, Eugene E., Newton
Hyde, Marshall E., Ft. Smith, Ark.
Hyndman, H. Harold, Wichita
Hynes, Henry E., Wichita

I

Ibarra, J. Luis, Wichita
Ibarra, Richard C., Kansas City, Kan.
Ingham, H. Laird, Lawrence
Ingram, John E., Kansas City, Kan.
Innes, Robert C., Kansas City, Kan.
Irby, Addison C., Ft. Scott
Irby, Pratt, Ft. Scott
Isaac, Charles A. Newton
Iturralde, George, Prairie Village

J

Jackman, Glenn H., Estes Park, Colo.
Jacks, J. Warren, Pratt
Jackson, Charles R., Wichita
Jackson, Delmas A., Jr., Salina
Jackson, Linda H., Topeka
Jackson, Roger P., Kansas City, Kan.
Jackson, Victor L., Altamont
Jacob, Kannampally L., El Dorado
Jacobs, David S., Kansas City, Kan.
Jacobs, Rae R., Kansas City, Kan.
Jacoby, Robert E., II, Topeka
Jahanian, Daryoush, Kansas City, Kan.
Jakowatz, James G., Kansas City, Kan.
Jambor, James J., Dodge City
James, Vernon L., Wichita
Janes, Donald R., Shawnee Mission
Janssen, Erwin T., Topeka
Jansen, Herman F., Hillsboro
Jarrott, John B., Hutchinson
Jayaram, Marandapalli R., Kansas City, Kan.
Jazayerli, Nabil, Wichita
Jehan, Sayed S., Wichita
Jenkins, Neal M., Salina
Jenney, Charles B., Wichita
Jensen, Thomas M., Kansas City, Kan.
Jewell, Ross L., St. Francis
Jewell, William R., Kansas City, Kan.
Jiongco-Aves, Agnes M., Parsons
Johler, Terry H., Shawnee Mission
Johns, Leo E., Jr., Kansas City, Mo.
Johnson, Edgar W., Jr., Lee's Summit, Mo.
Johnson, Frederick E., Topeka
Johnson, Howell D., Dodge City
Johnson, John E., Kansas City, Kan.
Johnson, J. Richard, McPherson
Johnson, Joseph H., El Dorado
*Johnson, Lee R. W., Topeka
Johnson, Paul D., Leavenworth
Johnson, Thomas E., Wichita
Jones, Charles E., Shawnee Mission
Jones, Edward L., Great Bend
Jones, Forrest H., Columbus
Jones, Herman H., Kansas City, Kan.
Jones, H. Ivor, Prairie Village
Jones, H. Penfield, Lawrence
Jones, Sam, Hutchinson
Jorg, Helen H., Shawnee Mission
Joseph, Brian W., Topeka
Joseph, Howard F., Lawrence
Joss, Charles S., Topeka
Jouvenat, Neil C., Overland Park
Joyce, G. Bernard, Topeka
Jubelt, Hilbert P., Manhatton
*Judilla, Francisco, Jr., Wichita
Jumper, Jerry L., D.O., Sabatha
Justus, William J., Pleasanton

K

Kadison, Herbert I., Wichita
Kaelson, Paul A., Wichita
Kagan, Stuart M., Shawnee Mission
Kalbac, Richard W., Garden City
Kaldor, Richard H., Manhattan
Kalivas, James T., Kansas City, Kan.
Kane, William M., Hays
Kardatzke, Elmer S., Wichita
Kardatzke, Jon K., Wichita
Karnaze, Greg C., Rochester, Minn.
Kasha, Robert L., Wichita
Kassebaum, Glen E., El Dorado
*Kassebaum, Kenneth G., Wichita
Kassel, Henry W., Lakewood, Colo.
Katz, Jerome B., Topeka
Kauffman, Ralph E., Kansas City, Kan.
Kaufman, Eugene E., Wichita
Kaufman, Leland K., Wichita
Kaufman, Willard E., Moundridge
Kaul, Anand N., Winfield
Kavel, Karl K., Topeka
Keene, George H., Wichita
Keeny, Maurice G., Wichita
Keil, James E., Osawatomie
*Keller, James P., Wichita
Kelly, Charles R., Kansas City, Mo.
Kelly, Dan A., Topeka
Kempthorne, Charles R., Manhattan
Kendall, Tommy E., Wichita
Kendrick, J. Gilleran, Wichita
Kennedy, Gerald T., Wichita
Kennedy, Howard U., Topeka
Kennedy, James A., Kansas City, Kan.
Kennedy, Kenneth R., Lenexa
Kepes, John J., Kansas City, Kan.
Kerby, Gerald R., Kansas City, Kan.
Ketchum, Lynn D., Kansas City, Kan.
Keys, Robert C., Jr., Topeka

Keys, Robert C., Sr., Winchester
Khicha, Gyancband J., Wicbita
Khoury, George H., Wichita
Khurana, Satish K., Shawnee Mission
Kihm, Albert A., Chanute
Kim, Jong M., Kansas City, Kan.
Kim, Paik N., Wichita
Kim, Soon E., Wichita
Kim, Yong W., Topeka
Kim, Yung S., Winfield
Kimball, Richard R., Mankato
Kimbrough, Victoria F., Lawrence
Kimura, Charles C., Prairie Village
Kindling, Paul H., Topeka
King, Charles R., Gladstone, Ore.
King, William T., Great Bend
Kinnan, Leon F., Caldwell
Kirby, Merlin G., Great Bend
Kirchner, Fernando R., Kansas City, Kan.
Kirk, Earl D., Jr., Wichita
Kirkegaard, Rodger S., Topeka
Kiser, John L., Wichita
Kiser, Willard J., Wichita
Kisbore, Pulla R. S., Kansas City, Kan.
Kitchen, Robert R., Wichita
Klassen, Daniel S., Newton
Klaus, Hanna, Wichita
Klemmer, Herbert, Topeka
Klenda, Martin B., Jr., Beloit
Kliewer, Vernon L., Newton
Klinger, Eugene A., Jr., Manhattan
Knapp, Leslie E., Wichita
Knapp, M. Robert, Wichita
Knappenberger, Roy C., Wichita
Knecht, Stephen M., Emporia
Kneidel, Thomas W., Wichita
Knuth, Kenneth L., Independence
Kobler, Carl D., Hill City
Kodanaz, A. Aytekin, Shawnee Mission
Koeneke, Irene A., Halstead
Koons, Jess W., Liberal
Kosar, Clarence D., Concordia
Kouri, Sammy H., Wichita
Kovarik, Ernest D., Topeka
Kozikowski, Ben M., Prairie Village
Krantz, Kermit E., Kansas City, Kan.
Krause, Roland L., Wichita
Kroll, Harry G., Topeka
Krueger, Alan L., Lenexa
Krueger, Haven C., Great Bend
Kubin, Doris, Shawnee Mission
Kullman, Frederick M., Louisburg
Kurth, C. Joseph, Wichita
Kurth, Robert H., Shawnee Mission
Kutilek. Frank J., Wichita
Kwee, Sioe T., Kansas City, Kan.
Kyner, Joseph L., Kansas City, Kan.

L

Labhsetwar, S. A., Junction City
Lafene, Benjamin W., Manhattan
Laham, Alexander J., Wichita
*Lai, Jeng Y., Wichita
Laing, Robert R., Kansas City, Kan.
Laird, Dale D., Olatbe
Lake, Max S., Salina
Lambright, Robert L., Shawnee Mission
Lance, John F., Jr., Wichita
Lance, Raymond W., Arma
Lansky, Lester L., Kansas City, Kan.
Lansky, Shirley B., Kansas City, Kan.
Lapi, Ruth, Shawnee Mission
Larson, Delbert L., Hiawatha
Lasley, David A., Salina
Laury, David G., Ottawa
Lavaveshkul, Chirund, Parsons
Law, Findlev, Ellinwood
Lawless, Harold L., Blue Rapids
Lawn, Raymond A., Wichita
Laws, Lewis R., Marysville
Lawson, Dwight, Topeka
Lawson, Robert C., Topeka
Lawton, Marvin K., Concordia
Laybourne, Paul C., Jr., Kansas City, Kan.
Lazar, Harry, Wichita
Leake, Hunter C., III, Kansas City, Kan.
Learned, George R., Lawrence
Lee, Edward S., Jr., Wichita
Lee, Jae M., Overland Park
Lee, James, Jr., Kansas City, Kan.
Lee, Kyo Rak, Kansas City, Kan.
Lee, R. Rex, Wichita
*Lee, Sang Oug, Wichita
Lee, Song-Dow, Topeka
Lee, Song P., Topeka
Leffler, Paul B., Pittsburg
Legaspi, Pedro L., Jr., Leawood
Leger, Lee H., Ft. Myers, Fla.
Leigh, Lawrence E., Shawnee Mission
Leisy, Jerald W., Wichita
Leitch, David A., Garnett
Lemoine, Albert N., Jr., Kansas City, Kan.
LeNeve, Robert T., Hugoton
Lenski, Frank X., Jr., Iola
Lentz, William R., Topeka
Lessenden, Chester M., Jr., Topeka
Lessenden, Glenn A., Lawrence
Lester, John B., Kansas City, Kan.
Lettner, Hans T., Hutchinson
Levine, William R., Emporia
Levy, Edwin Z., Topeka
Lewin, Walter, Prairie Village
Lewis, Harvey D., Jr., Kansas City, Mo.
Lewis, James E., Shawnee Mission
Lies, Barthel, Colwich
Lies, James E., Wichita
*Lies, Richard B., Wicbita
Liggett, Byron T., Great Bend
Lin, Joe J., Wichita
Lin, Tung Kuang, Wichita
Lindley, Milton E., Wichita
Lindsley, Carol B., Kansas City, Kan.
Lindsley, Herbert B., Kansas City, Kan.
Linhardt, Ronald D., Wichita
Linshaw, Michael A., Kansas City, Kan.
Lipschitz, David A., Kansas City, Kan.
Lipsey, James H., Shawnee Mission
*Littell, James A., Wichita
Little, L. Gilbert, Wichita
Liu, Chien, Parsons
Liujuluschan, Rit, Parsons
Lloyd, Harvey L., Kansas City, Kan.
Lloyd, James W., Concordia
Lockhart, Joseph G., Wicbita
Loeffler, James A., Wichita
Loewen, Henry H., Wichita
Loewen, Peter S., Hillsboro
Loewen, William C., Wichita
Lofgreen, Victor J., Ottawa
Logan, Geoffrey G., Wichita
Loganbill, Varden J., Moundridge
Lohmeyer, Kenneth L., Emporia
Long, Edward E., Humboldt
Long, Lloyd O., Goodland
Long, Robert C., Norton
Longwood, Orlin W., Tucson, Ariz.
Lotito, Carlos A., Prairie Village
Loveland, G. Charles, Lawrence
Lovett, Paul A., Wichita
Low, Harold L., Wichita
Low, Joseph H., Sun City, Arizona
Lowe, DeWitt S., Hiawatha
Lowe, Stanley W., Manhattan
Lowman, James T., Kansas City, Kan.
Lowry, Ray F., El Dorado
Luedtke, Walter E., Emporia
Lueken, Lueke B., Wichita
Luellen, Thomas J., Wichita
Lukens, David, Hutchinson
Lukert, Barbara P., Kansas City, Kan.
Lulo, Antonio R., Shawnee Mission
Lumb, Raymond C., Topeka
Lungstrum, Jack E., Salina
Luzzati, Enzo F., Wichita
Lynch, John A., Topeka
Lyons, Dave J., Pittsburg

M

Ma, Frank H., Kansas City, Mo.
Mace, Ronald D., Junction City
MacKillop, Daniel, Jr., Winfield
Macy, Norman E., Salina
Macy, Ted L., Salina
Madden, William J., Lincoln
Maddux, Bill D., Kansas City, Kan.
Madison, Ward N., Jr., Wichita
Madison, Willard A., Nortonville
Madsen, Glenn, Lawrence
Maklad, M. Nabil, Kansas City, Kan.
Mallory, John A., Sbawnee Mission
Malone, Eugene M., Halstead
Manahan, G. Eugene, Lawrence
Mangum, Wm. Barton, Kansas City, Kan.
Mani, M. Mani, Kansas City, Kan.
Manley, Joseph W., Overland Park
*Manning, Robert T., Wichita
Mansfield, Carl M., Kansas City, Kan.
*Mansour, Badie S., Wichita
Mantz, Frank A., Kansas City, Kan.
Marchbanks, Donald L., Salina
Marr, James C., Jr., Coffeyville
Marsh, Henry O., Wichita
Marshall, Bromell M., Topeka
Marshall, George D., Colby
Marshall, Ronald L., Manhattan
Martin, Albert E., Jr., Coffeyville
Martin, Daniel C., Manhattan
Martin, Earl A., Parsons
Martin, Glen E., Wichita
Martin, Norman L., Kansas City, Kan.
Martin, Oliver L., Salina
Martin, William O., Topeka
Marvin, Norman G., Kansas City, Kan.
Marymont, Jesse H., Wicbita
Maser, George R., Mission
Masters, Francis W., Kansas City, Kan.
Masterson, Byron J., Kansas City, Kan.
Mastio, George J., Wichita
Matassarin, Benjamin M., Wicbita
Matassarin, Frederick W., Wichita
Mathews, Robert M., Shawnee Mission
Mathewson, Hugb S., Kansas City
Mathis, Jerry L., Salina
Matthew, William L., Olathe
Mattick, Irvin H., Hays
Mattioli, Leone, Kansas City, Kan.
Mau, Walter, Topeka
Mauck, Harold C., Stockton
*Mawdsley, Michael W., Wichita
Maxfield, Russell J., Garden City
Maxwell, Gordon E., Salina
Maxwell, Robert A., Sbawnee Mission
May, Kenneth L., Bonner Springs
McAllaster, Wendale E., Great Bend
McCann, Patrick E., Ft. Scott
McCann, William, Olathe
McCarter, Duane K., Topeka
McCarthy, Robert P., Kansas City, Kan.
McCaughey, Hugh W., Shawnee Mission
McClanahan, Ward A., Wichita
McClellan, Ernest L., Wichita
McClellan, John W., Topeka
McClintock, Edward A., Topeka
McClure, James A., Topeka
McCollum, Mary B., Leavenworth
McCollum, William B., Leavenworth
McComas, Marmaduke D., Jr., Concordia
McConnell, Archie B., Burlington
McCormick, Eugene C., Wellington
McCoy, Charles P., Wichita
McCoy, Charles T., Hutcbinson
McCoy, Ronald, Dodge City
McCrae, Spencer C., Salina
McCreight, Eugene J., New Mexico
McCusker, Kevin T., Shawnee Mission
McEachen, William H., Shawnee Mission
McElhinney, Charles F., Dodge City
McElroy, Robert T., Topeka
McElroy, Wilbur J., Ethiopia
McGovern, James L., Wellington
McGuire, Michael R., Kansas City, Kan.
McGuire, William F., Wichita
McGurk, Thomas E., Overland Park
McIlvain, Guy B., Clay Center
McKee, Dick B., Pittsburg
McKee, Leo F., Cottonwood Falls
McKee, Ricbard S., Leavenworth
McKenna, Michael J., Fort Scott
McKerracher, Robert D., Derby
McKim, W. Lynn, Kinsley
McKnight, David E., Manhattan
McKnigbt, Ellis B., Alma
McLain, Kenneth, Ransom
McMullen, Josepb E., Hutchinson
McNeil, Elbert D., Manhattan
McSwain, Norman E., Jr., Kansas City, Kan.
McVay, R. Bruce, Clay Center
McWherter, Lottie B., Shawnee Mission
*Meadows, Donald C., Wichita
Mebed, Ali A. K., Topeka
Mebust, Winston K., Kansas City, Kan.
Medearis, Donald N., Kansas City, Kan.
Medina, Anibal, Hays
Mee, Adrian W., Olathe
Meek, George C., Arkansas City
Meek, Joseph C., Kansas City, Kan.
Meeker, Bruce P., II, Wicbita
Megaffin, Bernard B., Wichita
Megibow, Alan D., Topeka
Mehaffy, Orville A., Baxter Springs
Mehrhof, Edward G., Topeka
Meidinger, Ray, Hiawatha
Meidinger, Richard, Topeka
Mekis, John, Cherryvale
Melendres, Juanito M., Sbawnee Mission
Melia, Bernard J., Jr., Prairie Village
*Meller, Donald R., Wicbita
*Melvin, David B., Wichita
Menaker, Jerome S., Wichita
Mendiones, Marlene L., Wichita
*Mendiones, Ruperto D., Wichita
Menehan, H. James, Wichita
Menendez, Jose O., Overland Park
Menez, Cesar V., Prairie Village
Menking, F. W. Manfred, Wichita
Menninger, Karl A., Topeka

* Probationary members.

Menninger, Robert G., Topeka
Menninger, Roy W., Topeka
Menninger, W. Walter, Topeka
Mercer, James B., Lenexa
Meredith, W. Tom, Wichita
Merkel, Earl D., Russell
Merritt, Joe P., Wichita
Merritt, W. Henry, Leavenworth
Mershon, James C., Wichita
Mesina, Rolando R., Kansas City, Kan.
Meulbroek, Harvey J., Wichita
Meyer, Warren E., Wichita
Michelbach, Albert P., Wichita
Miguelino, Oliver M., Emporia
Mih, Alexander W. S., Humboldt
Miller, Abraham H., Manhattan
Miller, Charles H., Parsons
Miller, Clyde W., Douglas
Miller, Dean M., Parsons
Miller, Don E., Wichita
Miller, Earl E., Pittsburg
Miller, Elden V., Salina
Miller, Franklin R., Winfield
Miller, Herbert C., Kansas City, Kan.
*Miller, Lawrence H., Wichita
Miller, Monte B., Travis AFB, Calif.
Miller, Robert E., Garden City
Mills, Charles D., Wichita
Mills, George Q., Wichita
Mills, Philip E., Jr., Topeka
Mimoso, Jose J., Dodge City
Minnick, Charles V., Junction City
Mirza, Medo, Wichita
Mitchell, Alexander C., Wichita
Mitchell, John C., Salina
Mittleman, Frederick S., Topeka
Mitts, Ernest W., Bonner Springs
Moddrell, Carol, Lawrence
Modlin, Herbert C., Topeka
Moe, Frederick H., Hutchinson
Moeller, Donald D., Kansas City, Kan.
Moffat, Robert E., Kansas City, Kan.
Mohler, Jack M., Abilene
Mollohan, Morgan L., Longville, Minn.
Montgomery, Thomas A., Sabetha
Montgomery-Short, Ruth, Halstead
Moore, Chester E., Oakland, Ark.
Moore, Dennis F., Wichita
Moore, Robert, Hoisington
Moore, Robert F., Caney
Moore, Wayne V., Kansas City, Kan.
Moorhead, F. Allen, Neodesha
Moorman, Victor R., Hutchinson
Moran, Jeffery, Topeka
Morantz, Robert A., Kansas City, Kan.
Morcos, Abdelmalak E., Shawnee Mission
Morffi, Raul R., Kansas City, Kan.
Morgan, Dick A., Wichita
Morgan, James I., Wichita
Morgan, John L., Emporia
Morgan, Louis S., Wichita
Morgan, Nova L., Haysville
Morris, Merle D., Topeka
Morrison, Ira R., Atchison
Morrison, Richard A., Kansas City, Kan.
Morrison, Richard L., Wichita
Morrow, J. Tarlton, Topeka
Morrow, Thomas F., Wichita
Morton, John E., Halstead
Morton, Roscoe F., Arkansas City
Moseley, Jack E., Wichita
Moser, Ernest C., Holton
Moser, M. Ross, Holton
Moser, Roy H., Holton
Mosier, Stanley J., Wichita
Mowery, William E., Salina
Mowry, Gerald L., Manhattan
Moy, James T., Wichita
Moyer, Herman J., Derby
Moyer, John D., Topeka
Muehlberger, James J., Prairie Village
Mueller, Arnold V., Topeka
Mueller, J. Kent, Shawnee Mission
Mueller, Vernette A., Wichita
Mull, John C., Hutchinson
Mullen, Clifford J., Kansas City, Kan.
Mullen, Clifford J., Jr., Kansas City, Kan.
Muller, Samuel B., Pittsburg
*Mullinix, Janice M., Wichita
Murfitt, Malcolm C., Lindsborg
*Murphy, Barry L., Wichita
Murphy, Duane A., Wichita
Murphy, Paul M., Wichita
Myers, Earl B., Jr., Independence
Myers, JoAnn, Topeka
Myers, Robert W., Newton
Myers, W. Eugene, Iola

* Probationary members.

N

Nabours, Richard D., Topeka
Nachtigall, Andrew, Newton
Nagaswami, Subramoney, Topeka
Narcisco, Vic D., Abilene
Nash, Newman C., Scottsdale, Ariz.
Nash, Robert A., Shawnee Mission
Nason, Herbert M., Kansas City, Kan.
Neel, Wilbur B., Hutchinson
Neff, James R., Kansas City, Kan.
*Negron, Angel G., Wichita
Neighbor, Ernest G., Kansas City, Kan.
Neighbor, Ernest H., Pittsburg
Neighbor, Gaylord P., Kansas City, Kan.
Neighbor, Ralph M., Emporia
Neil, Roy, Hays
Neis, Harry B., Osage Beach, Mo.
Nelson, Gerald D., Wichita
Nelson, Gust H., Jr., Wichita
Nelson, James N., Topeka
Nelson, Paul L., Concordia
Nelson, Richard O., Lawrence
Nelson, Russell A., Wichita
Nelson, T. Eugene, Ft. Scott
Nemmers, David J., Junction City
Nesmith, Leslie W., Wichita
Neuenschwander, John Rand, Hoxie
Neuenschwander, John R., Hoxie
Neuschafer, Darrell R., Hutchinson
Nevins, Richard L., Liberal
Nevitt, J. Russell, Moran
Newby, James P., Wichita
Newcomb, Ward M., Hays
Newman, Clifford, Pittsburg
Newsom, F. Carter, Wichita
Newton, Charles R., Portland, Ore.
Nice, G. William, Topeka
Nickell, Wendell K., Salina
Niederee, W. Curtis, Great Bend
Nieman, John L., Shawnee Mission
Nienstedt, John F., Sun City, Ariz.
Nixon, R. Roy, Concordia
Nixon, William A., Wichita
Nohe, Philip C., Kansas City, Kan.
Norris, Charley W., Kansas City, Kan.
*Norris, Rebecca M., Wichita
Norris, Robert P., Wichita
North, Doris G., Wichita
North, Victor, Wichita
Norton, Robert K., Wichita
Nosti, Juan C., Shawnee Mission
Nothnagel, Arnold F., Kansas City, Kan.
Novotny, Peter C., Topeka
*Nowlin, Nancy S., Wichita
Null, William G., Salina
Nunemaker, Marion E., Hutchinson
Nunez, Julian, Overland Park
Nyberg, Fredrik F., Wichita
Nystrom, Curtis A., Topeka

O

Obando, Guillermo, Salina
Obourn, Robert L., Topeka
O'Bryan, James J., Prairie Village
Ochsner, Bruce B., Wichita
O'Connell, Frank A., Shawnee Mission
O'Dell, Michael L., Overland Park
*Odenheimer, Burtram J., Wichita
O'Donnell, Harold F., Sun City, Calif.
O'Donnell, Harry E., Junction City
O'Donnell, H. St. Clair, Ellsworth
O'Donnell, Leonard A., Wichita
O'Donnell, Leonard A., Jr., Wichita
O'Donnell, Richard H., Clay Center
Oelschlager, Ronald D., Lawrence
O'Grady, Joseph A., Halstead
Oh, Shi-Han, Winfield
Ohman, Richard J., Dodge City
Ohmart, Richard V., Oakley
Oktawiec, Danuta, Shawnee Mission
Oldfield, Ray W., Kansas City, Kan.
Olmo, Neftali, Topeka
Olney, Robert D., Manhattan
Olsen, Phillip S., El Dorado
Olson, Carl E., Lawrence
Olson, Clitus W., Goodland
Olson, Erwin T., Newton
Oltman, Theodore V., Riley
O'Neil, Robert H., Topeka
Openshaw, Calvin R., Hutchinson
Orchard, Richard A., Lawrence
Osborne, Conrad C., Wichita
Osgood, George M., Prairie Village
O'Shea, James G., Jetmore
Osio, Antonio L., Wichita
Osoba, William G., Wichita
O'Toole, James K., Newton
Overholser, Norman H., El Dorado
Owen, Garry D., Lawrence
Owen, La Rue W., Wichita
Owen, Pere A., Wichita
Owensby, Lindell C., Concordia

P

Pace, John D., Parsons
Padgett, William L., Wichita
Page, Patrick B., El Dorado
Page, Ruth, Wichita
Page, Vale, Plainville
Paine, George E., Hutchinson
Palmer, David L., Wichita
Palmer, Gerald K., Salina
Palmer, H. C., Jr., Liberal
Palmer, Marguerite L., Oberlin
Palmer, Marvin M., Leavenworth
Panichabhongse, Sambhundh, Russell,
Paranjothi, Subramoniam, Parsons
Pardo, Lillian G., Kansas City, Kan.
Pardo, Manuel P., Kansas City, Kan.
Park, Chan H., Kansas City, Kan.
Parker, Harold L., Wichita
Parker, Joseph W., Jr., Emporia
Parker, Robert W., Leavenworth
Parker, Wayne G., Emporia
Parman, Robert D., Topeka
Parmley, Charles C., Wichita
Parmley, Ray T., Kansas City, Kan.
Parra, Miguel D., Kansas City, Kan.
Parsi, Manutchehr K., Pittsburg
Paschino, Antonio R., Shawnee Mission
Pasimio, Roger S., Columbus
Patel, Vinod N., Topeka
Patino, Edgar, Topeka
Patterson, Alice W., Larned
Patterson, Harold L., Larned
Patterson, John R., Shawnee Mission
Patterson, Michael S., Garden City
Payne, Robert R., Topeka
Pazell, John A., Kansas City, Kan.
Pearce, Eugene W. J., Shawnee Mission
Pearce, Lunetta A. M., Shawnee Mission
Pecaña, Manuel C., Kansas City, Kan.
Pederson, Arnold M., Plainville
Pedraza, Hernando V., Newton
*Peery, William H., Wichita
Pees, Gerald B., Iola
Peffly, Elmer D., Chetopa
*Pellegrini, Adolph D., Topeka
*Pence, Charles D., Wichita
Penn, George M., Topeka
Pennington, Katherine, Wichita
Pentecost, Richard L., Leawood
Pereira, Willy G., Arkansas City
Perido, Dominador T., Elkhart
Perkins, Jack L., Hutchinson
Perry, Lawrence L., Jr., Kansas City, Kan.
Peters, Dale W., Wichita
Peters, Glenn R., Kansas City, Kan.
Petersen, A. Gene, Prairie Village
*Petersen, Christine D., Wichita
Petersen, Gerald D., Prairie Village
Peterson, Dean L., Topeka
Peterson, Evan A., Wathena
Peterson, Jack T., Manhattan
Peterson, Robert L., Topeka
Peterson, Vernon J., Topeka
Petrie, Samuel C., Shawnee Mission
Petrik, Edwin L., Topeka
Pettegrew, Pauline K., Prairie Village
Petterson, Cecil E., Syracuse
Petterson, O'Ruth S., Stuart, Fla.
Pettijohn, Walter J., Russell
Pfuetze, Karl D., Shawnee Mission
Pfuetze, Robert E., Topeka
Philgreen, Donald E., Ottawa
Phillips, Stephen B., Manhattan
Phillips, Warren G., Prairie Village
Phipps, Jack G., Wichita
Pierce, Charles F., Topeka
Pierce, Donald R., Topeka
Pierce, George E., Billings, Mont.
Pierron, George J., Olathe
Pierson, Weir, McPherson
Pilchard, William A., Kansas City, Kan.
Pincomb, Arthur L., Olathe
Pingleton, William W., Kansas City, Kan.
Pinsker, Jacob A., Wichita
Pischke, Frank J., Kansas City, Kan.
Pitman, Will D., Pratt
Pitts, Ronald L., Shawnee Mission
Plowman, Carl W., Jewell
Podrebarac, Leonard F., Wichita
Poggi, Raymond G., Topeka
Pogson, George W., Pittsburg

Pokorny, Charles, Halstead
Pol, P. Albert, Kansas City, Kan.
Poling, Terry L., Wichita
*Pollock, Anthony G. A., Wichita
Polly, Richard E., Topeka
Polson, Robert C., Great Bend
Poole, Bernard T., Wichita
Porter, David M., Kansas City, Kan.
Porter, Garry L., Wichita
Porter, Robert D., Topeka
Porter, William J., Pratt
Potter, Robert L., Kansas City, Kan.
Powell, Benson M., Topeka
Powell, Carol W., Leawood
Powell, Kenneth A., Kansas City, Mo.
Powell, William R., Topeka
Powers, G. Robert, Kansas City, Kan.
Powers, Harold W., Sun City, Ariz.
Powers, K. Dean, Wichita
Powers, William F., Pueblo, Colo.
Pratt, William L., Leavenworth
Preheim, Delbert V., Newton
Premsingh, Nalini G., Kansas City, Kan.
Preston, David F., Kansas City, Kan.
Preston, Ralph R., Topeka
Pretz, James B., Kansas City, Kan.
Price, Laurance W., Jr., Lawrence
Price, Vaughan C., McPherson
Prieto, Jorge N., Gardner
*Prieto, Luis E., Wichita
Prochazka, Otto F., Liberal
Proctor, Robert W., El Dorado
Prokop, Bradford S., Topeka
Pronko, Michael J., Prairie Village
Proud, G. O'Neil, Kansas City, Kan.
Pugh, David M., Kansas City, Kan.
Pulido, Quintin M., Elkhart
Pullman, Norman K., Wichita
Purinton, Lew W., Wichita
Purves, Robert K., Wichita
Putnam, Lyle B., Wichita
Pyle, Lucien R., Topeka

Q

Qamar, Yusuf, Newton
Quackenbush, Robert P., St. John
Quinones, Eladio A., Osawatomie

R

Rahe, Melvin A., Leavenworth
Rabin, Erwin R., Cleveland, Ohio
Radom, Sanford B., Kansas City, Mo.
Radovanov, Radmila, Wichita
*Rahhar, Al A., Wichita
Rahman, Hafiz M. A., Wichita
Rainbow, Kathryn A., Topeka
Ramchandani, Ashok P., Johnson
Ramirez, Augusto, Pittsburg
Ramirez, Irene, Pittsburg
Ramsey, Bartlett W., Topeka
*Randall, George R., Wichita
Randles, Michael J., Wichita
Ransdell, Edgar C., Topeka
Ransom, James H., Topeka
Rassa, Reza P., Salina
Rate, Robert G., Halstead
Rathbun, Edwin D., Liberal
Ratzlaff, Abraham K., Goessel
Rau, Jerold M., Kansas City, Kan.
*Rausa, Francisco C., Jr., Wichita
Rawcliffe, Robert A., Wichita
Rayburn, Frederick W., Topeka
*Razek, J. Zack A., Wichita
Read, William T., Coffeyville
Reals, William J., Wichita
Reazin, Walter L., Wichita
Reckling, Frederick W., Kansas City, Kan.
Reddy, B. N., Hill City
Reddy, Eashwer K., Kansas City, Kan.
Reddy, Narayan C., Shawnee Mission
Reddy, P. Jagannadha, Hill City
Redford, John W. B., Kansas City, Kan.
Reece, Adelbert S., Gardner
Reece, Adelbert T., Gardner
Reece, Carol Ann, Gardner
Reece, Richard J., Salina
Reed, A. J., Wichita
Reed, D. Cramer, Wichita
Reed, David D., Wichita
Reed, James S., Ethiopia
Reed, Ralph R., Lawrence
Reese, Jack D., Liberal
Reese, John L., Lawrence
Reeve, Arnold M., Kansas City, Kan.

* Probationary members.

Reeves, Bradford F., Wichita
Reeves, Charles S., Fort Scott
Regier, Henry L., Kansas City, Kan.
Regier, LaDonna M., Colby
Reid, David W., Topeka
*Reimer, Donald, Topeka
Reinhardt-Wulf, Taissia, Garden Plain
Reinking, Victor E., Topeka
Reitz, Leland C., Manhattan
Reitz, Roger P., Manhattan
Reivich, Ronald S., Overland Park
Relihan, Donald A., Wichita
Relihan, Francis H., Smith Center
Rempel, John H., Wichita
Rendon, Humberto M., Topeka
*Rennehohm, Robert M., Wichita
Renner, Marion J., Goodland
Replogle, Charles B., Great Bend
Rettenmaier, Albert J., Kansas City, Kan.
Reusch, Clifford S., Twin Falls, Idaho
Reyes, Francisco A., Jr., Ottawa
Reymond, Ralph D., Topeka
Reynolds, Jeffrey C., Hays
Reynolds, Lloyd W., Hays
Rhoads, James P., Wichita
Rhoden, Curtis H., Wichita
Rhodes, Ivan E., Wichita
Rhodes, James B., Kansas City, Kan.
Rhodes, Lowell M., Wichita
Rhodes, Martin L., Kansas City, Kan.
Rice, Frederick A., Jr., Kansas City, Kan.
Rich, Eldon S., Newton
Richards, Dennis D., Clay Center
Richards, Jon, Phillipsburg
Richardson, Jay L., Arkansas City
Richardson, Stewart F., Wichita
Rick, Gregory G. P., Jr., Kansas City, Kan
Rider, James W., Atchison
Riedel, Robert H., Topeka
Rieger, Ernest H., Wichita
Rieke, Frank A., Shawnee Mission
Riley, Ray B., Kansas City, Kan.
Riordan, Hugh D., Wichita
Rising, Jesse D., Kansas City, Kan.
Rizza, Robert G., Halstead
Roach, Neil E., Halstead
Roberts, Daniel K., Wichita
Roberts, Howard E., Topeka
Roberts, Louis S., Wichita
Roberts, Richard S., Lawrence
Roberts, Warren E., Topeka
Robertson, Joseph K., Wichita
Robinson, David B., Topeka
Robinson, David W., Kansas City, Kan.
Robinson, Edgar L., Independence
Robinson, G. Donald, Wichita
Robinson, John E., Wichita
Robinson, Ralph G., Kansas City, Kan.
Robinson, Robert H., Wichita
Robison, Corbin E., Lawrence
Robison, James T., Kansas City, Kan.
Robles, Luis H., Shawnee Mission
Rochanayon, Pira, Ellis
Roderick, James E., Salina
Rodriguez, Paul L., Garden City
Rodriguez, Raul G., Shawnee Mission
Roeder, Robert E., Topeka
Rohr, Joseph H., Shawnee Mission
Romalis, Brian E., Wichita
Rombold, Charles R., Augusta
Romeiser, Rex S., Salina
Rook, Lee E., Kansas City, Kan.
Rorabaugh, Donald C., Abilene
Rose, Donald L., Bella Vista, Ark.
Rose, Shelby D., Wichita
Rosenberg, Stanton L., Shawnee Mission
Rosenberg, Thomas F., Wichita
Rosenfeld, Warren N., Kansas City, Kan.
Roskos, S. Richard, Topeka
Ross, Jack L., Topeka
Rossitto, Anthony F., San Francisco, Calif.
Roth, Alan E., Kansas City, Kan.
Rothrock, Irvin A., Lawrence
Rovinski, Helen T., Topeka
Rowlett, Jack G., Paola
Roy, William R., Topeka
Rubin, Ben, Jr., Kansas City, Kan.
Rubin, Herbert M., Prairie Village
Ruhle, James L., Jr., Overbrook
Rucker, Clemens, Topeka
Rueb, Andrew E., Salina
Ruiz, Carlos M., Great Bend
Rumold, Mervin, Shawnee Mission
Runnels, John B., Topeka
Rupp, Richard J., Topeka
Russell, Homer B., Pea Ridge, Arkansas
Russell, Philip W., Wichita
Ruth, William E., Kansas City, Kan.

Ruzicka, Lawrence J., Concordia
Ryan, Edward J., Emporia
Ryan, Michael J., Kansas City, Kan.
Ryan, W. Scott, Emporia

S

Sahin, George M., Jr., Wichita
Sadiq, Suleman, Wichita
Saeed, Mahammad A., Wichita
Saffo, Karl S., Shawnee Mission
*Salgado, Carlos R., Wichita
Salomon, Alfie, Kansas City, Kan.
Samuel, Chandy C., Winfield
Sanchez, Rogelio, Topeka
Sanders, J. Alan, Lawrence
Sandhu, Paul S., Coffeyville
Santiago, Eleanor M., Kansas City, Kan.
Santoscoy, Gilbert S., Wichita
Sargent, Joseph, Topeka
Sathyanarayana, Saraswathi, Shawnee Mission
Saul, F. William, Emporia
Savin, Michael A., Kansas City, Kan.
Savin, Virginia J., Kansas City, Kan.
Sawkar, Laxmidas A., Shawnee Mission
Sayler, Jerome, Great Bend
Saylor, Edward H., Topeka
Saylor, Leslie L., Topeka
Saylor, Mark, Topeka
Scales, William M., Blue Eye, Mo.
Scamman, W. Wike, Topeka
Scanlon, James H., Haddam, Conn.
Schaefer, Joseph P., Shawnee Mission
Schaffer, Clarence K., Santa Cruz, Calif.
Schaffer, Richard A., Shawnee Mission
Schaum, Stephen P., Kansas City, Kan.
Schellinger, Richard P., Emporia
Scherer, Alfred L., St. John
Schiltz, Frances H., Wichita
Schimke, R. Neil, Kansas City, Kan.
Schlachter, Ernest R., Wichita
Schlemmer, Roger B., Pittsburg
Schlicher, John E., Wichita
Schloerb, Paul R., Kansas City, Kan.
Schloesser, Harvey L., Topeka
Schlotterback, William E., Mankato
Schlueter, John J., Wichita
Schmaus, Lyle F., Iola
Schmidt, Herbert R., South America
Schmidt, Ramon W., Garden City
*Schnelle, Joachim, Wichita
Schnoebelen, Rene E., Kinsley
Schopf, Clifton C., Wichita
Schotland, Edward S., Kansas City, Kan.
Schrepfer, Rosemary, Kansas City, Kan.
Schroeder, Sydney O., Lawrence
Schroll, Jack C., Hutchinson
Schuetz, Perry N., Ft. Lee, Va.
Schultz, James E., Council Grove
Schultz, Millard E., Wichita
Schwartz, Eugene W., Dodge City
Schwartz, John H., Salina
Schwartz, V. Dean, Wichita
Schwegler, Raymond A., Lawrence
Schwegler, Raymond A., Shawnee Mission
Scott, Alex, Junction City
Scott, Chester E., Salina
Scott, Duane L., Belleville
Scott, Vincent L., Wichita
Scott, William H., Wichita
Seago, Charlotte L., Liberal
Seaman, Lauren I., Olathe
Sebree, Steven G., Salina
Seeley, James C., Holton
Segerson, John A., Topeka
Sehdev, Joan, Topeka
Seitz, Joseph E., Ellsworth
Sekavec, Gordon B., Oakley
Sereres, Edgar P., Kansas City, Kan.
Serrano, Joaquin, LaCrosse
Settle, Russell O., Jr., Topeka
Settle, Russell O., Sr., Topeka
Sevier, Samuel M., Topeka
Shaad, Dorothy J., Shawnee Mission
Shafer, Preston J., Wichita
Shah, Indravadan S., Dodge City
Shah, Sharfuddin, Halstead
Shaw, James W., Wichita
Shaw, James W., Jr., Hutchinson
Shaw, Joseph L., Topeka
Shaw, Richard C., Wichita
Sheafor, Douglas, Topeka
Shears, Robert N., Hutchinson
Sheffer, Keith D., Olathe
Sheikh, Massood A., Independence

Shellito, John G., Wichita
Shelton, Stephen E., Topeka
Shepard, LeRoy W., Larned
Shepherd, Glen R., Corona Del Mar, Calif.
Sheppard, Robert G., Smith Center
Sherman, Robert P., Kansas City, Kan.
Sherwood, Clarence E., Topeka
Shields, James M., Jr., El Dorado
Shiflet, Albert W., Wichita
Shiney, Margaret L., Topeka
Shivel, David G., Great Bend
Shofstall, William H., Shawnee Mission
Shrader, Doyle A., Wichita
Sibala, Justo L., Kansas City, Kan.
Siegel, Albert R., Wichita
Siemens, Richard A., Lyons
Sifers, Earl C., Kansas City, Kan.
Sifford, R. Lawrence, Wichita
Siler, Eugene T., Hays
Sills, Charles T., Newton
Silverman, Mervyn F., Wichita
Silvers, Alvin, Kansas City, Kan.
Simmons, William C., Wellsville
Simpson, J. Colbert, Salina
Simpson, William S., Topeka
Sims, Thomas J., Jr., Sarasota, Fla.
Sinclair, Robert F., Manhattan
Sisk, Philip B., Topeka
Skibba, Richard M., Wichita
Sleeper, Carol A., Wichita
Sleeper, Donald C., Wichita
Sloo, Milo G., Salina
Smiley, William A., Junction City
Smith, Alvin L., Wichita
Smith, Bruce G., Arkansas City
Smith, Dale C., Prairie Village
Smith, Donald J., Shawnee Mission
Smith, Erma A., Wichita
Smith, Floyd L., Jr., Colby
Smith, Harold R., Salina
Smith, John D., Larned
Smith, Leo A., Topeka
Smith, Newton, Arkansas City
Smith, Stephen J., Arkansas City
Smith, Willard J., Jr., Wichita
Snodell, Firmin E., Shawnee Mission
Snook, Robert R., McLouth
Snow, Arthur D., Jr., Kansas City, Kan.
Snow, Donald L., Lansing
Snowbarger, Marvin D., Emporia
Snyder, C. John, Winfield
Snyder, Gregg M., Wichita
Snyder, Howard E., Winfield
Snyder, Thomas E., Biloxi, Miss.
Sodomsky, Martin E., Topeka
Soeldner, James O., Olathe
Sohlberg, Robert, Jr., McPherson
Solomon, Herman, Wichita
*Soltz, Robert A., Wichita
Somers, Marvin M., Wichita
Songer, Herbert L., Lincoln
Sosnow, William, Kansas City, Kan.
Soucek, Charles D., Kansas City, Kan.
Spann, Richard W. Wichita
Spaulding, John S., Kansas City, Kan.
Spearman, Jesse L., Topeka
Speer, Frederick, Shawnee Mission
Speer, Leland, Kansas City, Kan.
Speer, Louis N., Ottawa
Spencer, Millard C., Topeka
Spencer, Wayne E., Topeka
Spikes, Marion E., Garden City
Stafford, Robert W., Hutchinson
Stanley, Kenneth E., Jeddah, Saudia Arabia
Stanley, Rex C., Paola
Stark, James R., Wichita
Starkey, Jerald L., Russell
Stech, Joseph M., Andale
Stechschulte, Daniel J., Kansas City, Kan.
Steegman, A. Theodore, Indianapolis, Ind.
Steele, Clarence H., Kansas City, Kan.
Steichen, Edward F., Lenora
Stein, Joseph M., Topeka
Stein, Paul S., Wichita
Stein, Robert B., Manhattan
Steiner, Robert M., Overland Park
Steinkruger, Verlyn W., Emporia
Steinzeig, Alfred S., Prairie Village
Steinzeig, Sherman M., Kansas City, Kan.
Stensaas, Carl O., Hutchinson
Stephens, Charles G., Wichita
Stephens, Ronald L., Kansas City, Kan.
Stephenson, Lucille C., St. Francis
Stevens, Mildred J., Garnett
Stevens, Philip L., Tonganoxie
Stevens, Robert L., Garnett
Stevenson, Charles E., Kansas City, Kan.

* Probationary members.

Stevenson, E. Kent, Prairie Village
Stewart, Jack T., Wichita
Stine, G. Wayne, Out of State
Stitt, Ronald W., Kansas City, Kan.
Stock, Karl W., Topeka
Stockwell, Morgan U., Dodge City
Stofer, Bert E., Sun City, Ariz.
Stoffer, Robert P., Halstead
Stolz, Elmer G., Wichita
Stone, Francis M., Jr., Ft. Scott
Stone, G. Rex, Manhattan
Stone, Grant, Attica
Stopple, John A., Olathe
Stoskopf, Lawrence E., Wichita
Stout, James M., Hutchinson
Stout, Niles M., Lyndon
Strahm, Waymer J., Independence
Street, David E., Wichita
Strehlow, Chester H., Ottawa
Strick, Frank J., Kansas City, Kan.
Strutz, William C., Leavenworth
Stryker, Henry B., Jr., Concordia
Stubblefield, Charles T., Kansas City, Kan.
Stucky, Dean E., Medicine Lodge
Stump, Harl G., Hays
Sugar, Robert L., Overland Park
Sulit, Arnulfo P., Kansas City, Mo.
Sullivan, Cornelius J. P., Wichita
Sullivan, Henry B., Jr., Shawnee Mission
Sullivan, Leonard L., Wichita
Summerville, Ward W., Shawnee Mission
Sumner, Joyce R., Hutchinson
Sumner, Marion M., Hutchinson
Sumner, Ralph N., Fredonia
Surface, Gardner A., Ellis
Suthikant, Deja, Emporia
Sutton, Richard L., Jr., Prairie Village
Sutton, Richard O., Topeka
Sutton, Robert E., Ottawa
Svoboda, Charles R., Chapman
Swan, Major M., Great Bend
Swann, Clair L., Russell
Swartz, Warren E., Parsons
Swisher, William C., Wichita
Swogger, Glenn, Jr., Topeka

T

Takahashi, Tetsuro, Topeka
Tan, Poly, Halstead
Tandoc, Valentin T., Jr., Newton
Tangchupong, Chantrasiri, Parsons
Tangchupong, Sarohd, Parsons
Tappan, Daniel L., Topeka
Targownik, Karl K., Topeka
Tarm, Felix, Hutchinson
Tarnower, William, Topeka
Tayiem, Abdel K., Atchison
Taylor, Elmer W., Sedan
Taylor, Elwyn J., Hutchinson
Taylor, Richard J., Wichita
Taylor, Thomas F., Salina
Taylor, Thomas L., Kansas City, Kan.
Teare, Max E., Garden City
Tejano, Neonilo A., Halstead
Tejura, Kaneyalal B., Dodge City
Tempero, Stephen, Topeka
Templeton, Arch W., Kansas City, Kan.
Teng, Sioe Hong, Kansas City, Kan.
Tetzlaff, Archibald O., Prairie Village
Teusink, J. Paul, Topeka
Thelen, Christine, Wichita
Therou, Leona F., Kansas City, Kan.
Thiemann, Alfred H., D.O., Sublette
Thomas, James H., Kansas City, Kan.
Thomas, R. Cullen, Pratt
Thomas, Thomas V., Prairie Village
Thompson, Daniel M., Wichita
Thompson, Dannie M., Kansas City, Kan.
Thoms, Norman W., Topeka
Thornton, Foxhall P., Concordia
Thorpe, Francis A., Pratt
Throckmorton, Marion A., Wichita
Thurston, David E., Topeka
Tice, Galen M., Lenexa
Tiemann, William H., Manhattan
Tihen, Edward N., Wichita
Tihen, Henry N., Wichita
Tiller, George R., Wichita
Tillotson, Don R., Ulysses
Tilton, Frank M., Wichita
Tinker, Robert C., Wichita
Tinterow, Maurice M., Wichita
Tippin, Ernest E., Jr., Wichita
Tivorsak, Arkom, Atchison
Toalson, William B., Kansas City, Kan.
Tocker, Alfred M., Wichita
Tocker, Lilla Rodriguez, Wichita

Tompkins, Carl O., Newton
Tonn, Gerhart R., Wichita
Tovar, Manuel H., Hays
Tozer, Richard C., Topeka
Tracy, Terry A., Wichita
Travis, John W., Topeka
Trees, Clyde B., Topeka
Trees, Donald P., Wichita
Treger, Newman V., Topeka
Trekell, William V., Dodge City
Tretbar, Harvey A., Wichita
Tretbar, Lawrence L., Kansas City, Kan.
Trimble, David P., Emporia
Trueworthy, Robert C., Kansas City, Kan.
Truitt, William R., Topeka
Tucker, Sheridan G., Kansas City, Kan.
Turner, John W., Garden City
Tutera, Gino, Shawnee Mission
Tweet, Frederick A., Pittsburg
Tweito, David H., Hutchinson
*Twemlow, Stuart W., Topeka
Tyler, William F., Coffeyville

U

Ubelaker, Ernest J., South Haven
Ueda, Issaku, Kansas City, Kan.
Uhlig, Paul J., Wichita
Uhr, Nathaniel, Topeka
Underwood, Charles C., Emporia
Unger, James L., Kansas City, Kan.
Unrein, Robert J., Great Bend
Uy, Wilson O., Coffeyville

V

Vakas, John L., Coffeyville
Valk, William L., Kansas City, Kan.
VandeGarde, Larry D., Topeka
VanderVelde, Stanley L., Emporia
VanDerVliet, Stephen K., Wichita
Vannaman, Donald D., Overland Park
Vats, Tribhawan S., Kansas City, Kan.
Vaughan, Donna A., Newton
Villanueva, Cesar L., Prairie Village
Vin Zant, Larry E., Wichita
*VinZant, Whitney L., Wichita
Viswanathan, Byravan, Topeka
Vogt, Vernon W., Newton
Volkmann, Harley W., II, Manhattan
Von Leonrod, George, Jr., Dighton
Von Ruden, William J., Hutchinson
Voorhees, Carroll D., Leavenworth
Voorhees, Gordon S., Leavenworth
Vorhees, Victor J., Wichita
Votapka, William L., Stockton
Voth, Douglas W., Wichita
Voth, Harold M., Topeka

W

Waddell, Bill D., Kansas City, Kan.
Wade, Theodore E., Liberal
*Wadud, Abdul, Wichita
Wagenblast, Howard R., Salina
Waggoner, Franklin E., Bonner Springs
Waldorf, Melvin H., Jr., Greensburg
Walker, Jack D., Kansas City, Kan.
Walker, Maurice A., Kansas City, Kan.
Walker, Nellie G., Lee's Summit, Mo.
Walker, William H., Eskridge
Walker, William K., Sedan
Wallace, Leo F., Topeka
Wallace, Robert W., Wichita
Wallace Wayne O., Atchison
Wallace, Wayne O., Jr., Atchison
Walls, William J., Topeka
Walsh, Eugene A., Onaga
*Walsh, Richard A., Wichita
Walsh, Thomas E., Onaga
Walters, Byron W., Lawrence
Walton, Philip D., Atwood
Walz, Royce C., Topeka
Walz, Thomas J., St. Francis
Wang, Sidney W., Lenexa
Ward, Howard N., Topeka
Ward, James A., Belleville
Ward, Robert L., Stafford
Ware, Lucile M., Topeka
Warren, John W., Jr., Wichita
Warren, Linda D., Washington
Warren, Lloyd P., Wichita
Warren, Roger D., Hanover
Warren, Wirt A., Wichita
Waters, Chester H., III, Kansas City, Kan.
Waters, Clarence N., Salina
Watts, Harry E., Hays
Waxman, David, Kansas City, Kan.
Waxse, I. Joseph, Topeka
Waylan, Thornton L., Nashville

Weare, Mary E., Shawnee Mission
Weaver, Jack D., Wichita
Weaver, Jerome A., Overland Park
Weaver, J. Robert, Wichita
Weaver, Walter D., Topeka
Webb, James R., Shawnee Mission
Weber, Clarence J., Salina
Weber, Darrell J., Topeka
Weber, Hugo P., Jr., Wichita
Weber, Robert W., Salina
Weber, Roy R., Newton
Weber, Wallace N., Hays (In Service)
Weddle, Douglas P., Ft. Scott
Wedel, Kenneth D., Minneapolis
Wedel, Kermit G., Minneapolis
Wedin, Paul H., Wichita
Weigand, Joel T., Wellington
Weigel, John W., Kansas City, Kan.
Weippert, Edward J., Wichita
Weir, William C., Erie
Welch, Jack W., Halstead
Welch, Lauren K., Wichita
*Welch, Martin H., Wichita
Well, Michael A., Lawrence
Wells, Alvin Y., Winfield
Wells, Bruce W., Winfield
*Wells, James D., Wichita
Wellshear, Charles C., Wichita
Weltmer, Roger P., Beloit
Weninger, John H., Wichita
Wenzel, Anna M., Hays
Werner, Willard F., Tribune
Werth, Claude J., Kansas City, Kan.
Wertzberger, John J., Lawrence
Wesbrook, Clyde W., Travis AFB, Calif.
Wescoe, W. Clarke, New York, N. Y.
West, C. Omer, Kansas City, Kan.
West, Ray A., Wichita
West, William T., Wichita
Whallon, Jacob T., Wichita
Wheeler, Pinckney R., Wichita
Whitaker, Ren R., Oberlin
White, Benjamin E., II, El Dorado
White, Charles L., Great Bend
White, Charles M., Wichita
White, Donald C., Coffeyville
White, Fagan N., Russell
White, Harry H., Topeka
White, John P., Parsons
White, R. Burnley, Winfield
White, Thaddeus H., Manhattan
Whitehead, Richard E., Prairie Village
Whitley, Douglas M., Shawnee Mission
Whittier, Frederick C., Shawnee Mission
Wiegman, Hugh A., Hays
Wiens, J. Wendell, Newton
Wiens, Peter K., Ness City
Wigginton, Gerald D., D.O., Shawnee Mission
Wiggs, James W., Great Bend
Wiksten, Vernon C., Topeka
Wilchins, Lawrence J., Wichita
Wilcox, Donald E., Topeka
Wilcox, Howard L., Jr., Hays
Wilcox, Howard L., Lawrence
Wilder, Lowell W., Wichita
Wiley, Horace M., Garden City
Wiley, John H., Shawnee Mission
Williams, Charles L., Wichita
Williams, Evan R., Dodge City
Williams, Gene V., El Dorado
Williams, Homer J., Osage City
Williams, Howard V., Topeka
Williams, Sterling B., Jr., Kansas City, Kan
Wilson, James W., Coffeyville
Wilson, L. Barrick, Shawnee Mission
Wilson, Marvin H., Topeka
Wilson, Robert B., Prairie Village
Wilson, Robert L., Valley Center
Wilson, Sloan J., Shawnee Mission
Winblad, James N., Winfield
Winchell, H. H., Forsyth, Wichita
Winchester, Eugene B., Valley Center
Winter, Calvert J., Jr., Kansas City, Kan.
Wisdom, Jay K., Wichita
Wisner, Harry J., Jr., Wichita
*Witter, Robert L., Wichita
Wittman, Albert F., Wichita
Wolf, Curtis V., Lyons
Wolf, Karl T., Kansas City, Mo.
Wolfe, Frederick, Wichita
Wolfe, John E., Hutchinson
Wolfenbarger, Keith A., Hoisington
Wolff, Frederick P., Pratt
Wolkoff, A. Stark, Kansas City, Kan.
Wollmann, Martin, Lawrence
Wong, Bert Y., Kansas City, Kan.
Wong, Normund, Topeka
Wood, Douglas H., Pittsburg
Wood, Gary B., Wichita
Wood, Robert D., Horton
Woodard, Lawrence E., Wichita
Woodhouse, Charles L., Wichita
Woods, Hugh J., Smith Center
Woods, Robert P., Topeka
Woollcott, Phillip, Jr., Topeka
Wortman, Jack A., Hutchinson
Wray, A. James, Wichita
Wright, Kendall M., Emporia
Wright, M. Erik, Lawrence
Wright, Robert W., Kansas City, Kan.
Wright, Stanley E., Junction City
Wulff, Edwin T., Atchison
Wurster, George R., Overland Park

X

Y

Yaghmour, Talaat E., Pittsburg
Ye, Richard C., Prairie Village
Yeomans, Ronald N., Olathe
Yoder, Emerson D., Denton
Yoder, Vernon E., Newton
Yohe, Ruth M., Overland Park
Youmans, Roger L., Africa
Young, Charles H., Atchison
Young, John W., Prairie Village
Young, Theodore E., Topeka
*Youngberg, Dean I., Wichita
Youngstrom, Karl A., Kansas City, Kan.
Yulich, John O., Kansas City, Kan.

Z

Zabel, Kenneth P., Pittsburg
Zacharias, Carl K., Dodge City
Zack, Ashley S., Shawnee Mission
Zaremski, Sherman C., Prairie Village
Zarnow, Hilary, Wichita
Zee, Hugo J., Topeka
Zeller, Myron J., Garden City
Ziegler, Dewey K., Kansas City, Kan.
Zimmerman, Daniel D., Shawnee Mission
Zimmerman, Kenneth D., Wichita
Zimmerman, William H., Topeka
Zinn, Thomas W., Kansas City, Kan.
Zongker, Philip E., Wichita
Zweifel, Sam, Jr., Quito, Ecuador

MEDICAL SPECIALTY CODES AS RECOGNIZED BY THE AMA AND USED IN THIS DIRECTORY

ADM	Administrative Medicine
A	Allergy (sub-specialty of Internal Medicine)
ANES	Anesthesiology
AM	Aviation Medicine (special field of Preventive Medicine)
CD	Cardiovascular Disease (sub-specialty of Internal Medicine)
CHP	Child Psychiatry (sub-specialty of Psychiatry)
CLG	Clinical Gerontology
CP	Clinical Pharmacology
CRS	Colon and Rectal Surgery
DR	Diagnostic Roentgenology (special field of Radiology)
D	Dermatology
EM	Emergency Medicine
END	Endocrinology
ENT	Ear, Nose and Throat
FOP	Forensic Pathology (special field of Pathology)
FP	Family Practice
GE	Gastroenterology (sub-specialty of Internal Medicine)
GPM	General Preventive Medicine (special field of Preventive Medicine)
GS	General Surgery
GEN	Genetics
GER	Geriatrics
GYN	Gynecology
HEM	Hematology
HM	History of Medicine
ID	Infectious Diseases
IM	Internal Medicine
IE	Insurance Examination
ND	Neoplastic Diseases
NEP	Nephrology
NM	Nuclear Medicine
NS	Neurological Surgery
N	Neurology
NP	Neuropsychiatry
OBG	Obstetrics and Gynecology
OM	Occupational Medicine (special field of Preventive Medicine)
OPH	Ophthalmology
ORS	Orthopedic Surgery
OST	Osteopathy
OTO	Otolaryngology
PATH	Pathology
PD	Pediatrics
PDA	Pediatric Allergy (sub-specialty of Pediatrics)
PDC	Pediatric Cardiology (sub-specialty of Pediatrics)
PDH	Pediatric Hematology (sub-specialty of Pediatrics)
PDN	Pediatric Neurology (sub-speciality of Pediatrics)
PM	Physical Medicine and Rehabilitation
PS	Plastic Surgery
P	Psychiatry
PYM	Psychosomatic Medicine
PH	Public Health (special field of Preventive Medicine)
PUD	Pulmonary Diseases (sub-specialty of Internal Medicine)
R	Radiology
RES	Resident
RHU	Rheumatology
SH	School Health
TR	Therapeutic Radiology (special field of Radiology)
TS	Thoracic Surgery
U	Urology
OO	Retired
*	Probationary Member

PHYSICIAN DISTRIBUTION BY CITIES

Explanation of Codes Used in this Section

Line 1:	Doe, John R.,		1234 Oak St.,	67052	
	(Name)		(Street Address)	(Zip Code)	
Line 2:	(654-2222)				
	(Telephone Number)				
Line 3:	33	M	1902	58	FP
	(Year of Birth)	(Sex)	(Medical School)	(Year of Graduation)	(Specialty)

Telephone area code follows city name. * Probationary Members

ABILENE—913
(Dickinson County Society)

Berkley, Don H., 1111 Brady, 67410
(263-4131)
35 M 1902 61 FP
Butcher, Archie W., 303 Hilltop Dr., 67410
(263-1065)
01 M 1902 35 OO
Chaffee, Dean C., 1111 Brady, 67410
(263-4131)
11 M 1902 44 FP
Coleman, Gary W., 515 NE 10th, 67410
(263-7190)
46 M 1902 72 FP
Conklin, Kenneth E., 204 N.E. 10th, 67410
(263-1098)
02 M 1902 28 OO
Heins, Lawrence G., Route 5, 67410
(263-1602)
97 M 4102 21 OO
Mohler, Jack M., 1111 Brady, 67410
(263-4131)
32 M 1902 61 FP
Narciso, Vic D., 515 NE 10th, 67410
(263-2253)
45 M 74810 68 GS
Rorabaugh, Donald C., 1111 Brady, 67410
(263-4131)
33 M 1902 58 FP

ALMA—913
(Pottawatomie County Society)

McKnight, Ellis B., 66401
(765-3317)
03 M 1902 33 FP

ALTAMONT—316
(Labette County Society)

Jackson, Victor L., Box 467, 67330
(784-5318)
20 M 2105 50 FP

ANDALE—316
(Sedgwick County Society)

Stech, Joseph M., Andale Clinic, 67001
(445-2152)
27 M 3006 56 FP

ANTHONY—316
(Tri-County Society)

Antrim, Philip J., 1101 E. Spring, 67003
(842-5144)
15 M 1902 42 FP
Hall, Jerry D., 1101 E. Spring, 67003
(842-5144)
31 M 3901 56 FP

ARKANSAS CITY—316
(Cowley County Society)

Alvarez, Norberto, 112 E. Central, 67005
(442-4850)
27 M 2750 53 FP
Aucar, Alfredo, 2508 Edgemont Dr., 67005
(442-1710)
23 M 27501 53 ENT
Braley, Jack A., D.O., 508 AC Office Bldg., 67005
(442-6660)
29 M 1875 68 IM
Campbell, Garland L., 201 A. C. Office Bldg., 67005
(442-1350)
13 M 1902 40 U
Farrar, William H., Jr., 2508 Edgemont, 67005
(442-8200)
44 M 1902 70 IM
Green, Lawrence C., 112 E. Central Ave., 67005
(442-4850)
43 M 3901 69 FP
Hill, James E., 2508 Edgemont Dr., 67005
(442-4300)
09 M 1902 34 OPH
Hinshaw, Edgar D., Rt. #3, 67005
(442-1273)
15 M 1902 51 R
Howard, W. Robert, 2508 Edgemont, 67005
(442-1710)
45 M 1902 71 ENT
Meek, George C., 323 N. Summit, 67005
(442-2100)
05 M 1902 32 FP
Morton, Roscoe F., 302 A. C. Office Bldg., 67005
(442-2450)
13 M 401 42 IM
Pereira, Willy G., 2508 Edgemont, 67005
(442-8540)
39 M 73701 67 IM

Richardson, Jay L., 2508 Edgemont Dr., 67005
(442-4150)
38 M 1902 65 GS
Smith, Bruce G., 115 E. Radio Lane, 67005
(442-5600)
20 M 1902 44 IM
Smith, Newton C., 323 N. Summit, 67005
(442-2100)
21 M 3901 45 FP
Smith, Stephen J., 115 Hillside, 67005
(442-5600)
45 M 1902 71 FP

ARMA—316
(Crawford County Society)

Lance, Raymond W., Box AA, 66712
(347-8619)
22 M 1902 47 FP

ASHLAND—316
(Iroquois County Society)

Burket, Ivan R., 124 W. 7th, 67831
(635-2827)
88 M 2401 14 OO

ATCHISON—913
(Atchison County Society)

Bosse, Frank K., 1301 Riverview Dr., 66002
(367-0692)
09 M 2802 33 OO
Brady, Charles S., 111 N. 5th, 66002
(367-1232)
11 M 3006 38 GS
Bribach, Eugene J., 125½ N. 5th, 66002
(367-0225)
83 M 2802 05 OPH
Brown, Robert O., 1400 N. 2nd St., 66002
(367-1922)
14 M 1902 44 FP
Burke, Joseph V., 1301 N. 3rd, 66002
(367-5496)
35 M 3006 66 GS
Fast, Robert E., 1225 N. 2nd, 66002
(367-0362)
48 M 1902 74 OBG
Fast, W. Spencer, 1225 N.2nd, 66002
(367-0362)
11 M 3006 39 FP
Growney, John T., 801 Atchison, 66002
(367-5020)
37 M 3006 63 FP
Hart, Lawrence E., 1412 N. 2nd, 66002
(367-5054)
32 M 1902 64 FP
Morrison, Ira R., 825 N. 10th, 66002
(367-2763)
07 M 1611 36 IM
Rider, James W., 1225 N. 2nd, 66002
(367-0362)
47 M 2803 73 FP
Tayiem, Abdel K., 1225 N. 2nd, 66002
(367-0362)
43 M 33002 68 GS
Tivorsak, Arkom, P.O. Box 328, 66002
(367-2131)
40 M 89101 68 R
Wallace, Wayne O., Sr., 1301 N. 3rd, 66002
(367-5434)
12 M 1902 37 FP
Wallace, Wayne O., Jr., 1301 N. 3rd, 66002
(367-7300)
36 M 2803 65 FP
Wulff, Edwin T., 111 N. 5th, 66002
(367-5033)
07 M 2834 36 FP
Young, Charles H., 1301 N. 3rd, 66002
(367-4053)
23 M 1902 53 FP

ATTICA—316
(Tri-County Society)

Stone, Grant C., 215 W. Ave. D, 67009
(254-7219)
08 M 5605 35 FP

ATWOOD—913
(Northwest Kansas Society)

Henneberger, Charles E., 175 E. Court Pl., 67730
(626-3311)
86 M 4101 10 FP
Walton, Philip D., 5th & Page, 67730
(626-3322)
32 M 1902 63 FP

AUGUSTA—316
(Butler-Greenwood Society)

Anderson, Dale W., Augusta Plaza, 67010
(775-5432)
30 M 1902 55 FP
Barber, James L., Augusta Plaza, 67010
(775-5432)
31 M 1902 57 FP
Haffner, William N., 105 E. 5th, 67010
(775-6391)
35 M 1902 61 GS
Rombold, Charles R., R.R. 1, 67010
99 M 1606 24 OO

BAXTER SPRINGS—316
(Cherokee County Society)

Alquist, V. Dale, 21st & Fairview, 66713
(856-2400)
17 M 1902 42 GS
Chubb, Richard M., 445 E. 10th, 66713
(856-2444)
29 M 1606 54 FP
Claiborne, Richard H., III, 2201 Military Ave., 66713
(856-3535)
27 M 1902 53 FP
Mehaffy, Orville A., 411 E. 11th, 66713
(856-2383)
42 M 1902 69 FP

BELLEVILLE—913
(Republic County Society)

Beiderwell, Paul L., 2703 M Street, 66935
(527-2174)
08 M 3901 38 OO

Chaney, Ernie J., 2316 G St., 66935
(527-2237)
27 M 1902 56 FP
Doubek, Herbert D., 2316 "G" St., 66935
(527-2237)
28 M 1902 56 FP
Scott, Duane L., 1206 18th St., 66935
(527-2217)
34 M 1902 60 FP
Ward, James A., 1206 18th St., 66935
(527-2217)
34 M 1902 58 FP

BELOIT—913
(Mitchell County Society)

Dobratz, Robert A., 310 W. 8th, 67420
(738-2246)
24 M 1902 52 FP
Drake, Douglas J., 310 W. 8th, 67420
(738-2246)
43 M 1902 71 FP
Klenda, Martin B., 310 W. 8th, 67420
(738-2246)
38 M 1643 63 GS
Weltmer, Roger P., 112 W. Main, 67420
(738-2574)
18 M 1902 44 U

BLUE RAPIDS—913
(Northeast Kansas Society)

Lawless, Harold L., 607 Lincoln, 66411
(226-7202)
29 M 702 54 FP

BONNER SPRINGS—913
(Wyandotte County Society)

May, Kenneth L., 122 N. Nettleton, 66012
(422-2020)
20 M 1902 51 FP
Mitts, Ernest W., 122 N. Nettleton, 66012
(422-2020)
22 M 1902 51 FP
Waggoner, Franklin E., 122 N. Nettleton, 66012
(422-2020)
26 M 1902 61 FP

BUHLER—316
(Reno County Society)

Friesen, Orlando J., 107 W. 2nd, 67522
(543-2330)
27 M 1902 56 FP

BURLINGTON—316
(Flint Hills Society)

McConnell, Archie B., 66839
(364-5732)
90 M 3901 15 FP

CALDWELL—316
(Tri-County Society)

Kinnan, Leon F., 101 N. Main, 67022
(845-6422)
18 M 3901 42 FP

CANEY—316
(Southeast Kansas Society)

Moore, Robert F., 4th & McGee, 67333
(879-2135)
28 M 1902 56 FP

CEDAR VALE—316
(Southeast Kansas Society)

Cohnberg, Rosellen E., P.O. Box 398, 67024
(758-2266)
22 F 2802 47 FP

CENTRALIA—913
(Northeast Kansas Society)

Capsey, Roswell E., 122 Main, 66415
(857-3392)
04 M 1902 44 OO

CHANUTE—316
(Southeast Kansas Society)

Abbuehl, Don R., 505 S. Plummer, 66720
(431-2500)
18 M 1902 44 GS
Ashley, George L., 505 S. Plummer, 66720
(431-2500)
12 M 1902 37 GS
Ashley, Glen, 505 S. Plummer, 66720
(431-2500)
16 M 1902 43 FP
Baker, Henry K., 811 W. Main, 66720
(431-1600)
08 M 1606 35 GS
Burkman, Reuben J., 1501 W. 7th, 66720
(431-9310)
28 M 1902 54 FP
Dick, Henry J., Jr., 1501 W. 7th, 66720
(431-9310)
27 M 1902 58 FP
Gehrt, Earl B., 505 S. Plummer, 66720
(431-2500)
32 M 1902 62 FP
Haskins, Robert J., 505 S. Plummer, 66720
(431-2500)
46 M 1902 74 FP
Hudson, James R., Neosho Memorial Hospital, 66720
(431-4000)
37 M 1902 63 R
Kihm, Albert A., 505 S. Plummer, 66720
(431-2500)
27 M 1902 55 FP

CHAPMAN—913
(Dickinson County Society)

Svoboda, Charles R., 413 N. Marshall, 67431
(922-6400)
18 M 1902 46 FP

CHERRYVALE—316
(Labette County Society)

Mekis, John, 216 E. 4th, 67335
(336-2134)
27 M 47302 53 FP

CHETOPA—316
(Labette County Society)

Peffly, Elmer D., 327 Maple, 67336
(236-7188)
22 M 3901 53 FP

CLAY CENTER—913
(Clay County Society)

Anderson, Severt A., 532 Lincoln, 67432
(632-3166)
07 M 1902 36 FP
Carleton, Richard C., 709 Liberty, 67432
(632-5603)
31 M 3005 61 FP
McIlvain, Guy B., 532 Lincoln, 67432
(632-2376)
97 M 1643 25 OO
McVay, R. Bruce, 1503 5th, 67432
(632-3542)
97 M 1902 29 OO
O'Donnell, Richard H., 709 Liberty, 67432
(632-3101)
16 M 1902 41 GS
Richards, Dennis D., 115 S. 6th, 67432
(632-5621)
34 M 1902 60 FP

CLYDE—913
(Cloud County Society)

Freeborn, Warren S., Jr., 66938
(446-2221)
26 M 1720 51 FP

COFFEYVILLE—316
(Southeast Kansas Society)

Bryant, Homer L., Box 844, 67337
(251-9597)
99 M 3501 30 OO
Campbell, William H., 1411 W. 4th, 67337
(251-3235)
39 M 1902 65 OPH
Coyle, John F., 209 W. 7th, 67337
(251-2400)
21 M 1902 44 FP
Dickinson, Charles R., 109 W. 7th, 67337
(251-1340)
20 M 1606 44 GS
Diver, Robert W., P.O. Box 288, 67337
(251-0688)
93 M 1902 24 OO
Ellis, Stephen S., 1411 W. 4th, 67337
(251-3360)
11 M 2802 36 GS
Ha, Sang W., 504 Wilshire, 67337
(251-7750)
35 M 58309 60 OBG
Han, Chan S., 1512 W. 4th, 67337
(251-1560)
35 M 58306 61 PD
Howerter, Bernard E., Jr., P.O. Box 659, 67337
(251-4790)
43 M 1803 68 U
Marr, James C., Jr., P.O. Box 398, 67337
(251-1800)
21 M 2834 45 ORS
Martin, Albert E., Jr., 109 W. 7th, 67337
(251-2350)
11 M 1902 37 FP
Read, William T., 1411 W. 4th, 67337
(251-1120)
16 M 2802 40 FP
Sandhu, Paul S., 209 W. 7th, 67337
(251-2450)
42 M 49508 65 GS
Tyler, William F., 808 Willow, 67337
(251-2100)
42 M 1902 68 FP
Uy, Wilson O., 101 Tyler, 67337
(251-1200)
42 M 74801 67 PATH
Vakas, John L., 1508 W. 4th, 67337
(251-3443)
38 M 1902 64 IM
White, Donald C., Coffeyville Memorial Hosp., 67337
(251-1200)
35 M 3515 65 R
Wilson, James W., Coffeyville Memorial Hosp., 67337
(251-1200)
26 M 3901 58 PATH

COLBY—913
(Northwest Kansas Society)

Dahl, Asher W., Colby Clinic, P.O. Box 28, 67701
(462-3333)
28 M 1902 58 FP
Hildyard, Victor H., Colby Clinic, P.O. Box 28, 67701
(462-3333)
15 M 1902 42 OTO
Hildyard, Victor H., II, Colby Clinic, P.O. Box 28, 67701
(462-3332)
47 M 702 73 FP
Marshall, George D., Colby Clinic, P.O. Box 28, 67701
(462-3333)
09 M 1902 36 FP
Regier, LaDonna M., Colby Clinic, P.O. Box 28, 67701
(462-3332)
47 F 1902 73 FP
Smith, Floyd L., Jr., Colby Clinic, P.O. Box 28. 67701
(462-3333)
20 M 1902 44 FP

COLDWATER—316
(Iroquis County Society)

Choudhury, M. Hasan, 139 E. Main, 67029
(582-2136)
46 M 16001 69 GS

COLUMBUS—316
(Cherokee County Society)

Belcher, George D., 114 W. Pine, Box 309, 66725
(429-2557)
34 M 1902 60 FP
Jones, Forrest H., 219 S. Kansas, 66725
(429-3744)
25 M 1902 54 FP

Pasimio, Roger S., 114 W. Pine, 66725
(429-2557)
38 M 74801 62 S

COLWICH—316
(Sedgwick County Society)

Lies, Barthel N., 67030
(796-1255)
11 M 2834 37 FP

CONCORDIA—913
(Cloud County Society)

Bray, Avis P., 1010 3rd Ave., 66901
(243-1560)
17 F 702 54 FP
Butt, Muhammad M., 1010 Third, 66901
(243-1560)
46 M 70401 69 GS
Fowler, Wayne L., 332 W. 8th, 66901
(243-1560)
23 M 1720 47 IM
Gelvin, E. Raymond, 835 W. 9th, 66901
(243-4677)
03 M 3005 27 OO
Hofer, DeWayne D., St. Joseph's Hospital, 66901
(243-1234)
36 M 1606 62 R
Kosar, Clarence D., P.O. Box 362, 66901
(243-3389)
98 M 1902 26 OO
Lawton, Marvin K., 1010 3rd Ave., 66901
(243-1560)
31 M 3005 58 GS
Lloyd, James W., 810 W. 11th, 66901
(243-7011)
44 M 1902 73 FP
McComas, Marmaduke D., Jr., 11th & Washington Sts. 66901
(243-2511)
16 M 1902 43 U
Nelson, Paul L., 1010 3rd Ave., 66901
(243-1560)
27 M 1902 55 PD
Nixon, R. Roy, 519 Washington, 66901
(243-1263)
32 M 1643 57 R
Owensby, Lindell C., 222 W. 6th, 66901
(243-3386)
21 M 2802 44 OPH
Ruzicka, Lawrence J., 1010 3rd Ave., 66901
(243-1560)
13 M 3005 40 ANES
Stryker, Henry B., Jr., 717 First Ave., 66901
(243-3130)
19 M 3501 44 IM
Thornton, Foxhall P., 1010 3rd Ave., 66901
(243-1560)
25 8 5101 50 IM

COTTONWOOD FALLS—316
(Flint Hills Society)

McKee, Leo F., 66845
(273-6681)
16 M 1902 39 FP

COUNCIL GROVE—316
(Flint Hills Society)

Barker, Royal A., 221 Hockaday, 66846
(767-5126)
21 M 1902 53 FP
Blackburn, Robert W., 221 Hockaday, 66846
(767-5126)
22 M 1902 49 FP
Schultz, James E., 221 Hockaday, 66846
(767-5126)
26 M 1902 56 FP

CUNNINGHAM—316
(Wyandotte Society)

Allbritten, Frank F., P.O. Box 177, 67035
(298-2542)
14 M 4101 38 OO

DENTON—913
(Northeast Kansas Society)

Yoder, Emerson D., 66017
(359-6531)
14 M 1902 49 FP

DERBY—316
(Sedgwick County Society)

McKerracher, Robert D., 400 N. Baltimore, 67037
(788-1779)
27 M 3901 55 FP
Moyer, Herman J., 200 S. Baltimore, 67037
(788-1484)
24 M 3901 55 FP

DeSOTO—913
(Johnson County Society)

Billingsley, John A., Jr., Box 476, 66018
(585-1177)
31 M 1902 58 FP

DIGHTON—316
(Southwest Kansas Society)

Von Leonrod, George, Jr., Box 146, 67839
(397-5314)
16 M 1902 43 FP

DODGE CITY—316
(Ford County Society)

Amawi, Mohammad S., 2020 Central, 67801
(225-1371)
46 M 87501 71 GS
Avila, Oscar A., 2020 Central, 67801
(225-1371)
41 M 17603 69 IM
Baum, Arnold H., 2020 Central, 67801
(225-1371)
16 M 2101 44 OBG
Boles, R. Dale, 2020 Central, 67801
(225-1371)
23 M 3901 53 PD

Brownrigg, Richard L., 2020 Central, 67801
(225-1371)
35 M 1902 61 U
Busch, Anthony B., 806 2nd Ave., 67801
(227-3141)
05 M 2002 31 FP
Chotimongkol, Anupong, 2020 Central, 67801
(225-1371)
43 M 89102 69 OBG
Conard, Clair C., 2020 Central, 67801
(225-1371)
27 M 1902 55 IM
Doak, Roger S., 515 Clover, 67801
(227-1371)
39 M 2834 65 R
Fry, Luther L., 2206 First Ave., 67801
(225-0523)
41 M 1902 67 OPH
Jambor, James J., 304 Hwy. 56 W-Suite 2, 67801
(227-3213)
20 M 2307 46 D
Johnson, Howell D., 2020 Central, 67801
(225-1371)
45 M 1902 71 IM
McCoy, Ronald, 806 2nd Ave., 67801
(227-3141)
19 M 3901 47 FP
McElhinney, Charles F., 2020 Central, 67801
(225-1371)
36 M 1902 62 GS
Mimoso, Jose J., 806 2nd Ave., 67801
(227-3141)
37 M 4201 61 OBG
Ohman, Richard J., 714 2nd Ave., 67801
(227-2106)
15 M 2407 41 GS
Schwartz, Eugene W., 617 2nd Ave., 67801
(225-4261)
24 M 1902 50 OPH
Shah, Indravadan S., 806 2nd Ave., 67801
(227-3141)
44 M 9523 70 IM
Stockwell, Morgan U., 2020 Central, 67801
(225-1371)
24 M 1902 55 IM
Tejura, Kaneyalal B., 2020 Central, 67801
(225-1371)
42 M 49564 70 PD
Trekell, William V., 806 2nd Ave., 67801
(227-3141)
25 M 1902 52 GS
Williams, Evan R., 2020 Central, 67801
(225-1371)
25 M 1606 52 GS
Zacharias, Carl K., 2020 Central, 67801
(225-1371)
21 M 40707 47 ORS

DOUGLAS—316
(Sedgwick County Society)

Miller, Clyde W., RR #2, Box 206A, 67039
(775-6600)
09 M 2002 36 OO

EL DORADO—316
(Butler-Greenwood Society)

Brian, Robert M., 123 N. Atchison, 67042
(321-1230)
02 M 1606 30 FP
Dellett, Kenneth B., 613 N. Main, 67042
(321-1910)
30 M 1902 55 OPH
Girod, Charles I., 123 N. Atchison, 67042
(321-4981)
11 M 4706 44 GS
Hammel, George W., 119 N. Jones, 67042
(321-2010)
08 M 1902 30 IM
Jacob, Kannampally L., 123 N. Atchison, 67042
(321-0056)
31 M 49537 59 U
Johnson, Joseph H., 119 N. Jones, 67042
(321-3430)
99 M 401 27 EENT
Kassebaum, Glen E., 123 N. Atchison, 67042
(321-2710)
98 M 1606 23 GS
Lowry, Ray F., 226 W. Central, 67042
(321-9122)
13 M 1902 45 FP
Olsen, Phillip S., 123 N. Atchison, 67042
(321-2100)
46 M 1902 73 IM
Overholser, Norman H., 119 N. Jones, 67042
(321-2010)
16 M 1902 41 FP
Page, Patrick B., 123 N. Atchison, 67042
(321-5630)
42 M 1902 68 GS
Proctor, Robert W., 119 N. Jones, 67042
(321-2010)
38 M 1902 63 FP
Shields, James M., Jr., 119 N. Jones, 67042
(321-2010)
18 M 4802 42 FP
White, Benjamin E., 119 N. Jones, 67042
(321-2010)
27 M 1902 54 FP
Williams, Gene V., 200 W. Ash, 67042
(321-6680)
23 M 1902 54 ENT

ELKHART—316
(Seward County Society)

Perido, Dominador T., P.O. Box 997, 67950
(697-2155)
44 M 74801 68 GS
Pulido, Quinton M., 449 Morton, 67950
(697-2155)
44 M 74801 68 GS

ELLINWOOD—316
(Barton County Society)

Law, Findley, Medical Arts Bldg., 67526
(564-2170)
22 M 1902 51 FP

ELLIS—913
(Central Kansas Society)

Rochanayon, Pira, 814 Jefferson, 67637
(726-4956)
43 M 89101 69 FP
Surface, Gardner A., 1204 Washington, 67637
(726-4212)
02 M 1902 29 FP

ELLSWORTH—913
(Central Kansas Society)

Davis, George R., 308 Kingsley, 67439
(472-3121)
19 M 1902 44 GS
O'Donnell, H. St. Clair, 308 Kingsley, 67439
(472-3121)
93 M 2802 17 GS
Seitz, Joseph E., Jr., 308 Kingsley, 67439
(472-3121)
22 M 1902 46 FP

EMPORIA—316
(Flint Hills Society)

Bradley, H. Russell, 1601 State, 66801
(343-2900)
35 M 1902 62 FP
Brockhouse, John P., 1601 State, 66801
(343-2900)
31 M 1902 57 IM
Burgeson, Frank, 1601 State, 66801
(342-6989)
40 M 3005 65 OPH
Butcher, Thomas P., 1128 Lawrence, 66801
(342-0722)
05 M 1601 34 GS
Campbell, Edward G., 1601 State, 66801
(343-2900)
31 M 1902 61 FP
Coldsmith, Donald C., 1024 W. 12th, 66801
(342-7047)
26 M 1902 58 FP
Conard, Richard F., 2049 Huntington Rd., 66801
(342-7722)
16 M 1902 42 R
Davis, David R., 1038 Lawrence, 66801
(342-0646)
02 M 2101 28 PD
Edwards, David J., 1601 State St., 66801
(343-1191)
43 M 2803 69 ORS
Frazier, Richard L., 1601 State St., 66801
(343-2900)
40 M 1902 72 GS
Funes, Carlos A., 1601 State, 66801
(342-7715)
42 M 13205 66 U
Gann, E. Lamonte, Rt. 2, 66801
(342-6340)
07 M 2802 37 OO
Garcia, Gould C., 919 W. 12th, 66801
(342-2521)
32 M 3607 58 IM
Geitz, James M., 919 W. 12th, 66801
(342-2521)
46 M 1902 72 IM
Ginavan, Duane A., 1024 W. 12th, 66801
(342-5876)
35 M 1902 62 FP
Glenn, James N., 1601 State, 66801
(343-1191)
40 M 4804 66 ORS
Harvey, John E., 1601 State St., 66801
(343-2900)
39 M 1902 65 OBG
Havenhill, Marshall A., II, 812 Anderson, 66801
(343-6400)
35 M 1902 61 OBG
Hopper, Charles R., 25 W. 5th, 66801
(342-2341)
17 M 1902 47 FP
Knecht, Stephen M., 2021 Fanestil Dr., 66801
(342-7722)
44 M 1902 70 R
Lohmeyer, Kenneth L., 1024 W. 12th, 66801
(342-6622)
18 M 1902 44 FP
Luedtke, Walter E., 2026 Canterbury Road, 66801
(342-6593)
18 M 5605 43 PATH
Miguelino, Oliver M., Newman Memorial Hosp., 66801
(342-7120)
35 M 74801 57 PATH
Morgan, John L., 919 W. 12th, 66801
(342-2521)
15 M 4101 40 IM
Neighbor, Ralph M., 827 Commercial, 66801
(343-6565)
46 M 1902 72 OBG
Parker, Joseph W., Jr., 1348 Frontier Way, 66801
(342-0886)
01 M 1902 45 OO
Parker, Wayne G., Emporia Kan. State College, 66801
(343-1200) Ext. 224
27 M 1902 56 FP
Ryan, Edward J., 919 W. 12th, 66801
(342-2521)
12 M 1902 36 IM
Ryan, W. Scott, 1601 State, 66801
(343-2900)
47 M 1902 73 PD
Saul, F. William, Newman Memorial Hospital, 66801
(342-7120)
07 M 4113 40 R
Schellinger, Richard P., 1128 Lawrence, 66801
(342-0722)
22 M 3005 49 GS
Snowbarger, Marvin D., 1601 State, 66801
(343-2900)
29 M 1902 55 FP
Steinkruger, Verlyn W., Emporia Kan. State College 66801
(343-1200)
28 M 3005 53 FP

Suthikant, Deja, 705 S. Commercial, 66801
(342-0548)
41 M 89103 66 P
Trimble, David P., Sr., 517 Merchant, 66801
(342-2572)
04 M 1902 32 OPH
Underwood, Charles C., 25 W. 5th, 66801
(342-2341)
07 M 1902 32 IM
VanderVelde, Stanley L., 1601 State, 66801
(343-2900)
16 M 1902 43 GS
Wright, Kendall M., 1024 W. 12th, 66801
(343-2376)
45 M 1902 71 FP

ERIE—316
(Southeast Kansas Society)

Bryan, Emery C., Rt. #2, 66733
(244-3339)
04 M 1902 32 OO
Weir, William C., 115 S. Main, 66733
(244-3771)
17 M 2501 42 FP

ESKRIDGE—913
(Flint Hills Society)

Walker, William H., Second & Cedar, 66423
(449-2301)
10 M 2401 38 IM

EUREKA—316
(Butler-Greenwood Society)

Baird, C. Dryden, 202 N. Plum, 67045
(583-6608)
02 M 3901 27 OO
Basham, John H., 201 N. Main, 67045
(583-5554)
11 M 2802 36 FP
Ciskey, William J., 1602 N. Elm, 67045
(583-7401)
47 M 1902 72 FP

FORT SCOTT—316
(Bourbon County Society)

Akers, Guy I., 710 W. 8th, 66701
(223-3100)
20 M 1902 53 IM
Aldis, Henry, 710 W. 8th, 66701
(223-3100)
13 M 1902 41 OBG
Aldis, William, 710 W. 8th, 66701
(223-3100)
20 M 1902 44 GS
Basham, James J., 102 S. Judson, 66701
(223-4100)
14 M 1902 37 FP
Benage, John F., 710 W. 8th, 66701
(223-3100)
32 M 1902 58 OBG
Braun, Edward W., 710 W. 8th, 66701
(223-3100)
42 M 1902 68 U
Burke, James J., 710 W. 8th, 66701
(223-3100)
35 M 2834 61 IM
Chow, Stanley L. Y., Mercy Hospital, 66701
(223-2200)
18 M 24222 39 R
Dunshee, Carlyle M., 710 W. 8th, 66701
(223-3100)
32 M 1902 57 GS
Gettler, Dean T., 710 W. 8th, 66701
(223-3100)
31 M 1902 57 GS
Good, James T., Mercy Hospital, 66701
(223-2200)
21 M 2802 45 PATH
Irby, Addison C., 416 S. Judson, 66701
(223-1868)
05 M 1606 28 OO
Irby, Pratt, 710 W. 8th, 66701
(223-3100)
13 M 4705 36 U
McCann, Patrick E., 710 W. 8th, 66701
(223-3100)
28 M 1902 59 IM
McKenna, Michael J., 102 S. Judson, 66701
(223-4100)
38 M 1902 64 FP
Nelson, T. Eugene, 710 W. 8th, 66701
(223-3100)
41 M 1902 69 FP
Reeves, Charles S., 710 W. 8th, 66701
(223-3100)
37 M 1902 63 IM
Stone, Francis M., Jr., 710 W. 8th, 66701
(223-3100)
15 M 2101 41 ENT
Weddle, Douglas P., 710 W. 8th, 66701
(223-3100)
43 M 1720 69 FP

FORT LEAVENWORTH—913
(Leavenworth County Society)

Allan, Michael A., 12 5th Artillery Rd., 66027
(684-4157)
41 M 3840 69 OTO

FREDONIA—316
(Southeast Kansas Society)

Bayles, Hugh G., 1508 Madison St., 67736
(378-3412)
25 M 1902 52 FP
Beal, Raymond J., 600 Madison, 66736
(378-2159)
12 M 1902 38 GS
Hayden, A. Mary, 617 Monroe, 66736
(378-2751)
88 F 1902 35 OO
Sumner, Ralph N., 712 Madison, 66736
(378-2311)
31 M 1902 57 FP

GARDEN CITY—316
(Southwest Kansas Society)

Austin, John O., 601 N. 6th, 67846
(276-2346)
14 M 1601 40 FP

Barnard, James A., 611 N. 5th, 67846
(275-9671)
31 M 4812 62 OBG
Beggs, David F., 609 N. 5th, 67846
(276-9211)
39 M 1902 64 IM
Bigler, F. Calvin, 611 N. 5th 67846
(275-9671)
31 M 801 57 S
Bruno, James W., 1133 Kansas Plaza, 67846
(276-8201)
40 M 4706 66 FP
Dickerson, Robert M., 1503 Fulton Terr., 67846
(275-7123)
34 M 1902 64 IM
Eichhorn, Frank D., 719 Kansas Plaza, 67846
(276-8132)
25 M 1902 56 FP
Gilbert, John H., II, 601 N. 5th, 67846
(275-9671)
46 M 1902 70 ORS
Greenburg, George E., 2409 Belmont, 67846
(276-9586)
42 M 401 68 R
Heard, Kenneth M., St. Catherine Hosp., 67846
(275-6111)
21 M 4706 44 PATH
Hernandez, Alexander M., St. Catherine Hosp., 67846
(275-6111)
33 M 84704 59 P
Kalbac, Richard W., 603 N. 5th, 67846
(275-9671)
45 M 2803 70 OBG
Maxfield, Russell J., 1133 Kansas Plaza, 67846
(276-8201)
16 M 1902 41 FP
Miller, Robert E., 1703 Crestway Dr., 67846
(275-9671)
26 M 4812 55 GS
Patterson, Michael S., 601 N. 5th, 67846
(275-9671)
43 M 1902 69 PM
Rodriquez, Paul L., 2116 Center, 67846
(275-6111)
39 M 4706 66 R
Schmidt, Ramon W., 603 N. 5th, 67846
(275-9671)
39 M 1902 65 GS
Spikes, Marion E., 603 N. 5th, 67846
(275-9671)
26 M 1902 62 FP
Teare, Max E., 156 Garden Dale, 67846
(276-7689)
28 M 1902 54 P
Turner, John W., 210 E. Spruce, 67846
(276-3292)
13 M 1902 39 FP
Wiley, Horace M., 602 N. 6th, 67846
(276-6901)
12 M 2802 40 GS
Zeller, Myron J., 609 N. 5th, 67846
(275-9671)
38 M 1902 64 OM

GARDEN PLAIN—313
(Sedgwick County Society)

Biermann, Aloysius H., 67050
(535-2231)
99 M 3006 23 FP
Reinhardt-Wulf, Taissia L., P.O. Box 273, 67050
(535-2211)
19 F 91302 42 OO

GARDNER—913
(Johnson County Society)

Abdullah, Syed M., 615 E. Washington, 66030
(884-8711)
42 M 70401 65 GS
Prieto, Jorge N., 427 W. Main, 66030
(884-8711)
45 M 26401 69 GS
Reece, Adelbert S., 237 W. Main, 66030
(884-8221)
01 M 1902 29 OO
Reece, A. Thomen, 427 W. Main, 66030
(884-8711)
37 M 1902 63 FP
Reece, Carol A., 427 W. Main, 66030
(884-8711)
37 F 1902 63 PD

GARNETT—913
(Anderson County Society)

Dougherty, Thomas M., 117 W. 6th, 66032
(448-5421)
28 M 1902 55 FP
Harris, Claib B., Jr., 320 S. Oak, 66032
(448-5431)
17 M 1902 44 FP
Leitch, David A., 117 W. 6th, 66032
(448-5421)
38 M 1902 63 FP
Stevens, Mildred J., 202 W. 4th, 66032
(448-5454)
23 F 1902 47 FP
Stevens, Robert L., 202 W. 4th, 66032
(448-5454)
23 M 1902 47 FP

GIRARD—316
(Crawford County Society)

Friggeri, Robert W., 111 N. Summit, 66743
(724-8723)
23 M 1902 51 FP
Hall, Wesley H., 606 W. St. John, 66743
(724-6154)
25 M 1902 57 FP

GLASCO—913
(Cloud County Society)

Harwood, Claude J., Box 428, 67445
(568-2342)
25 M 1902 55 FP

GODDARD—316
(Sedgwick County Society)

Bruner, Kenneth W., Jr., 18 S. Lakeview, 67052
(794-8217)
44 M 2401 70 PATH

GOESSEL—316
(Marion County Society)

Canellos, James, Goessel Clinic, 67053
(367-2205)
30 M 86902 62 FP
Ratzlaff, Abraham K., Goessel Clinic, 67053
(367-2205)
06 M 1902 33 FP

GOODLAND—913
(Northwest Kansas Society)

Austin, Kenneth D., 520 Main, 67735
(899-3633)
33 M 3005 63 FP
Bare, Lawrence E., 520 Main, 67735
(899-5651)
37 M 3901 70 FP
Long, Lloyd O., 520 Main, 67735
(899-5651)
37 M 1720 63 FP
Olson, Clitus W., 520 Main, 67735
(899-3633)
16 M 3005 48 GS
Renner, Marion J., 417 West 9th, 67735
(899-5178)
96 M 1902 22 OO

GREAT BEND—316
(Barton County Society)

Anderson, Lyle B., 1017-A Jackson, 67530
(793-8141)
28 M 1902 60 FP
Beahm, Anol W., 3923 Broadway, 67530
(793-7827)
16 M 1902 43 FP
Beahm, Donald E., 3923 Broadway, 67530
(792-3626)
45 M 1902 71 OPH
Brown, Reiff, 1031 Jackson, 67530
(792-4391)
31 M 3901 57 ORS
Caple, Elbert M., 3515 Broadway, 67530
(792-2511)
34 M 1902 64 ANES
Cavanaugh, Clair J., 3515 Broadway, 67530
(792-2617)
23 M 1803 47 R
Degner, James B., 3515 Broadway, 67530
(792-2617)
31 M 1902 57 R
Elledge, E. Fred, 1017C Jackson, 67530
(792-3678)
38 M 1902 65 U
Evans, William R., 3923 Broadway, 67530
(793-3574)
25 M 1902 53 FP
Fieser, Carl W., 3515 Broadway, 67530
(792-2617)
45 M 1902 71 R
Filbert, Charles G., 1400 Polk, 67530
(792-3681)
40 M 2879 65 OTO
Gateno, Joseph, 3421 Forest, 67530
(793-3501)
25 M 64901 50 OBG
Holt, John M., 2200 Lakin, 67530
(793-8429)
35 M 1902 61 IM
Jones, Edward L., 3515 Broadway, 67530
(792-2511)
35 M 1902 61 PATH
King, William T., 3421 Forest, 67530
(793-3501)
35 M 1902 61 OBG
Kirby, Merlin G., 1012 Washington St., 67530
(793-3091)
31 M 1902 56 GS
Krueger, Haven C., 1023 Jackson Sq., 67530
(792-2163)
32 M 1902 61 PD
Latimer, Lester A., 1560 K-96 Hwy, 67530
(792-2448)
84 M 2820 09 OO
Liggett, Byron T., 1723 Williams, 67530
(792-2814)
30 M 1902 63 N
McAllaster, Wendale E., 2111 Forest, 67530
(793-3591)
24 M 1902 54 GS
Niederee, W. Curtis, 1012 Washington, 67530
(793-3091)
30 M 3006 56 GS
Polson, Robert C., 1422 Polk, 67530
(793-8414)
17 M 1902 42 OPH
Replogle, Charles B., 2111 Forest, 67530
(793-3591)
27 M 1902 53 FP
Ruiz, Carlos M., 3107 12th, 67530
(792-3210)
25 M 27501 52 P
Sayler, Jerome, 3515 Broadway, 67530
(792-2511)
20 M 4113 50 PATH
Shivel, David G., 3523 Forest, 67530
(793-3523)
28 M 1902 55 FP
Swan, Major M., 3923 Broadway, 67530
(792-4540)
06 M 1902 43 IM
Unrein, Robert J., 1017-A Jackson, 67530
(792-2504)
29 M 1902 58 FP
White, Charles L., 2412 Dove Terr., 67530
(792-4763)
06 M 1902 36 OO

Wiggs, James W., 1027 Jackson, 67530
(792-1336)
36 M 1720 63 N

GREENSBURG—316
(Iroquois County Society)

Bradley, J. Roderick, 502 S. Walnut, 67054
(723-2127)
23 M 1902 47 FP
Waldorf, Melvin H., Jr., 502 S. Walnut, 67054
(723-2127)
23 M 1902 47 FP

HALSTEAD—316
(Harvey County Society)

Aillon, Alejandro J., Hertzler Clinic, 67056
(835-2241)
39 M 26402 63 TS
Bailey, Colin, Hertzler Clinic, 67056
(835-2241)
33 M 35205 59 GYN
Boudreaux, V. J., Hertzler Clinic, 67056
(835-2241)
37 M 48-12 64 R
Burnett, A. Dean, Hertzler Clinic, 67056
(835-2241)
21 M 1902 52 GS
Decker, Donald D., Hertzler Clinic, 67056
(835-2241)
31 M 1902 56 CD
Gradinger, Billens C., Hertzler Clinic, 67056
(835-2241)
06 M 1902 34 GE
Harms, Wilmer A., Hertzler Clinic 67056
(835-2241)
22 M 1902 56 OPH
Holt, Robert G., Hertzler Clinic, 67056
(835-2241)
22 M 5104 44 OPH
Hoofer, Wilford D., Hertzler Clinic, 67056
(835-2241)
30 M 1902 55 TS
Koeneke, Irene A., Hertzler Clinic, 67056
(835-2241)
98 F 2802 27 GYN
Malone, Eugene M., Hertzler Clinic, 67056
(835-2241)
23 M 1902 56 IM
Montgomery-Short, Ruth, Hertzler Clinic, 67056
(835-2241)
10 F 1902 37 OTO
Morton, John E., Hertzler Clinic, 67056
(835-2241)
99 M 35211 26 P
O'Grady, Joseph A., Hertzler Clinic, 67056
(835-2241)
16 M 3545 41 IM
Pokorny, Charles, Hertzler Clinic, 67056
(835-2241)
08 M 2834 34 PUD
Rate, Robert G., Hertzler Clinic, 67056
(835-2241)
14 M 1803 39 S
Rizza, Robert G., R.R. #2, 67056
(835-2827)
30 M 1201 56 PD
Roach, Neil E., Hertzler Clinic, 67056
(835-2241)
38 M 1902 67 CHP
Shah, Sharfuddin, Hertzler Clinic, 67056
(835-2241)
31 M 70401 58 IM
Stoffer, Robert P., Hertzler Clinic, 67056
(835-2241)
26 M 1902 48 IM
Tan, Poly, Hertzler Clinic, 67056
(835-2241)
44 M 3901 69 P
Tejano, Neonilo A., Hertzler Clinic, 67056
(835-2241)
43 M 74808 67 ORS
Welch, Jack W., Hertzler Clinic, 67056
(835-2241)
18 M 1902 51 GS

HANOVER—913
(Northeast Kansas Society)

Warren, Roger D., Box 38, 66945
(337-2214)
31 M 1902 57 GS

HARPER—316
(Tri-County Society)

Bellar, Ralph E., Joslin Hospital, 67058
(896-3131)
31 M 3005 60 FP

HAVEN—316
(Reno County Society)

Duffles-Andrade, Marcio, 130 N. Kansas, 67543
(227-3141)
28 M 18706 52 FP
Haines, Chester W., 102 Sunset Ln., 67543
(465-3338)
01 M 1606 28 OO

HAYS—913
(Central Kansas Society)

Allen, James E., 2707 Vine #6, 67601
(628-3261)
46 M 1902 72 IM
Applegate, Francis R., 1010 Downing, 67601
(628-8218)
30 M 1902 55 OPH
Artman, John C., 2005 Lincoln Dr., 67601
(625-2518)
24 M 2002 48 ANES
Bula, Ralph E., 105 W. 13th, 67601
(625-2551)
12 M 1902 37 FP
Carlson, Earl V., 2818 N. Vine, 67601
(628-8221)
31 M 3005 56 ORS
Cecil, John, III, 1104 Oakmont, 67601
(625-6521)
43 M 4804 69 R
Chavalithamrong, Hansa, 105 W. 13th, 67601
(625-2551)
45 M 89101 69 OBG

Cox, Robert H., 105 W. 13th, 67601
(625-2551)
43 M 1902 70 PD
Cramm, Russell E., 111 W. 10th, 67601
(625-2518)
30 M 1902 56 GS
Eddy, Murray C., 2001 Lincoln Dr., 67601
(625-9633)
98 M 1601 26 OO
Eddy, Victor M., 105 W. 13th, 67601
(625-2551)
29 M 1902 55 GS
Enberg, Robert N., 105 W. 13th, 67601
(625-2551)
43 M 1902 69 PD
Flanders, H. Alden, 2901 Ash, 67601
(628-8251)
23 M 1902 44 IM
Haigler, James P., 234 W. 11th, 67601
(625-2537)
13 M 3006 39 FP
Halling, L. William, Hays Pathology Lab., 67601
(625-5646)
27 M 5002 57 PATH
Hilgers, Jack E., 105 W. 13th, 67601
(625-2551)
22 M 2802 47 GS
Hull, Norman E., 111 West 10th, 67601
(625-2518)
24 M 1902 52 FP
Hutchison, Glen C., 3200 Country Lane, 67601
(628-1160)
21 M 1902 50 ANES
Kane, William M., Jr., 105 W. 13th, 67601
(625-2551)
27 M 1001 54 OBG
Mattick, Irvin H., 2818 N. Vine, 67601
(628-8221)
18 M 2802 43 ORS
Meding, Anibal, 2707 Vine, 67601
(628-1019)
34 M 45101 62 U
Neil, Roy, 1108 Main, 67601
(628-3215)
38 M 3005 65 PATH
Newcomb, Ward M., Box 1019, 67601
(625-5646)
47 M 3305 71 PATH
Reynolds, Jeffrey C., 412 First Natl. Bank Bldg., 67601
(625-7311)
39 M 1902 64 ENT
Reynolds, Lloyd W., 2110 Ash, 67601
(625-3249)
10 M 3840 34 OO
Siler, Eugene T., 1010 Downing, 67601
(628-8218)
24 M 1902 52 OPH
Stump, Harl G., 2717 Canal Blvd., 67601
(628-2826)
39 M 1902 65 GS
Tovar, Manuel H., 2717 Canal Blvd., 67601
(625-3457)
39 M 26404 67 FP
Watts, Harry E., 1010 Downing, 67601
(628-8218)
27 M 702 54 OPH
Weber, Wallace N., 321 W. 32nd, 67601
(628-2421)
43 M 1902 69 D
Wenzel, Anna M., 204 W. 17th, 67601
(628-2017)
95 F 1902 23 OO
Wiegman, Hugh A., 105 W. 13th, 67601
(628-1808)
34 M 1803 60 ENT
Wilcox, Howard L., Jr., 2818 Vine, 67601
(628-8221)
44 M 1902 70 ORS

HAYSVILLE—316
(Sedgwick County Society)

Morgan, Nova L., 301 W. Grand, 67060
(524-3275)
20 M 3901 50 FP

HERINGTON—913
(Dickinson County Society)

Dozier, Fred S., 4 West Main, 67449
(258-2215)
10 M 4804 34 ANES
Gilliland, James O., 4 W. Main, 67449
(258-2215)
08 M 3901 32 FP

HESSTON—316
(Harvey County Society)

Diener, Clayton H., 101 W. Vesper, 67062
(327-4122)
18 M 1902 54 GS
Friesen, Florence C., Schowalter Villa, 67062
(327-4867)
87 F 1611 14 OO

HIAWATHA—913
(Northeast Kansas Society)

Duckett, Thomas G., 314 Oregon, 66434
(742-2161)
10 M 1902 34 GS
Larson, Delbert L., 314 Oregon, 66434
(742-2161)
30 M 1803 64 FP
Lowe, DeWitt S., 202 S. 6th, 66434
(742-2117)
99 M 3006 28 FP
Meidinger, Ray, 120 N. 6th, 66434
(742-2135)
03 M 3005 32 FP

HIGHLAND—913
(Northeast Kansas Society)

Corder, Robert L., 66035
(442-3341)
23 M 1902 49 FP

HILL CITY—913
(Northwest Kansas Society)

Kobler, Carl D., 513 N. 10th, 67642
(674-2191)
23 M 1902 49 FP
Reddy, Bollam N., 304 W. Prout, 67642
(674-2255)
38 M 49557 66 PD
Reddy, P. Jagannadha, 80 Walnut Dr., 67642
(674-2255)
42 M 49511 66 GS

HILLSBORO—316
(Marion County Society)

Ens, G. George, 613 S. Main, 67063
(947-5931)
20 M 1902 55 FP
Ens, Peter D., 202 S. Wilson, 67063
(947-3671)
14 M 1902 51 FP
Franz, Robert G., 704 S. Main, 67063
(947-3197)
33 M 3901 59 FP
Janzen, Herman F., 128 S. Main, 67063
(947-3171)
91 M 1902 35 GP
Loewen, Peter S., Salem Hospital, 67063
(947-3114)
91 M 1902 30 OO

HOISINGTON—316
(Barton County Society)

Moore, Robert, 814 N. Elm, 67544
(653-2151)
22 M 3901 53 FP
Wolfenbarger, Keith A., 351 W. 10th, 67544
(653-4145)
27 M 1902 58 FP

HOLTON—913
(Jackson County Society)

Moser, Ernest C., 438 Hillcrest Dr., 66436
(364-3230)
09 M 1902 34 OO
Moser, M. Ross, 418 W. 5th, 66436
(364-3116)
19 M 1902 47 FP
Moser, Roy H., 801 Iowa, 66436
(364-3240)
04 M 1902 32 OO
Seeley, James C., 418 W. 5th, 66436
(364-3116)
34 M 1902 64 FP

HORTON—913
(Northeast Kansas Society)

Wood, Robert D., 1205 1st Ave. E., 66439
(486-2127)
26 M 1902 53 FP

HOXIE—913
(Northwest Kansas Society)

Neuenschwander, John R., 700 Main, 67740
(675-3292)
26 M 2802 51 FP
Neuenschwander, John Rand, 700 Main, 67740
(675-3292)
47 M 1902 72 FP

HUGOTON—316
(Seward County Society)

Frederick, Mac F., 104 W. 6th, 67951
(544-2784)
20 M 1902 44 FP
LeNeve, Robert T., 104 W. 6th, 67951
(544-2784)
21 M 3901 46 FP

HUMBOLDT—316
(Southeast Kansas Society)

Long, Edward E., 8th & New York, 66748
(473-2411)
21 M 1902 50 FP
Mih, Alexander W. S., 624 Bridge, 66748
(473-2227)
22 M 24209 47 FP

HUTCHINSON—316
(Reno County Society)

Adams, Marcus W., 1125 N. Main, 67501
(663-6121)
33 M 3901 59 PD
Albright, Jerold D., 1125 N. Main, 67501
(663-6121)
39 M 1902 66 FP
Anderson, David G., 1100 N. Main, 67501
(669-0191)
35 M 1602 61 ORS
Antlfinger, Thomas J., Hutchinson Hosp., 67501
(663-6811)
42 M 5606 67 R
Austin, George M., 1125 N. Main, 67501
(663-6121)
42 M 1720 68 U
Baker, Robert B., Hutchinson Hosp., 67501
(663-6811)
47 M 6001 72 R
Bauer, Thomas A., 1125 N. Main, 67501
(663-6121)
41 M 1902 67 IM
Blank, John N., 711 Wolcott Bldg., 67501
(663-4271)
07 M 1902 38 FP
Borra, Mario J., 1 W. 8th, 67501
(662-1751)
24 M 2401 47 U
Bos, Norman C., 2415 N. Main, 67501
(663-4406)
24 M 1611 47 ORS
Boyd, G. Bryant, 1100 N. Main, 67501
(663-1251)
44 M 3901 70 FP

Burger, J. Dale, 1125 N. Main, 67501
(663-6121)
21 M 1902 46 FP
Casady, Gilbert N., 39 Linksland Dr., 67501
(663-3657)
23 M 1902 53 ANES
Chen, John S., 1701 E. 23rd, 67501
(669-8330)
33 M 24216 56 ANES
Coker, Grady N., Jr., 1100 N. Main, 67501
(663-1146)
25 M 1201 54 OBG
Crawford, Robert A., 1125 N. Main, 67501
(663-6121)
16 M 1601 42 FP
Depenbusch, Francis L., 512 Wolcott Bldg., 67501
(663-7187)
38 M 1902 65 OPH
Eckart, DeMerle E., 312 Wolcott Bldg., 67501
(662-4921)
14 M 1902 40 P
Falter, Richard T., 512 Wolcott Bldg., 67501
(663-7187)
38 M 1902 67 OPH
Fernie, Robert W., 1100 N. Main, 67501
(663-1136)
06 M 702 34 IM
Foss, Daniel C., 1125 N. Main, 67501
(663-6121)
43 M 1902 69 GE
Goodpasture, W. Carter, Willowbrook, 67501
(662-0478)
10 M 1602 36 OO
Hedrick, Kenneth E., 1125 N. Main, 67501
(663-6121)
27 M 1902 53 GS
Hill, John J., 519 Wiley Bldg., 67501
(662-1291)
16 M 1902 44 OTO
Hinshaw, Charles T., Jr., 725 N. Main, 67501
(662-7801)
32 M 1902 58 PATH
Hodes, Herbert C., 1100 N. Main, 67501
(663-1146)
43 M 1902 69 OBG
Holderman, Wallace D., 2415 N. Main, 67501
(663-4406)
28 M 1902 54 ORS
Jarrott, John B., 1100 N. Main, 67501
(669-0191)
16 M 1902 40 ORS
Jones, Sam, 517 32nd Terr., 67501
(662-6753)
13 M 2802 39 OO
Lettner, Hans T., 725 N. Main, 67501
(662-7801)
23 M 40716 49 PATH
Lukens, David, 1100 N. Main, 67501
(663-1136)
24 M 2307 48 IM

McCoy, Charles T., 310 Wolcott Bldg., 67501
(662-0121)
16 M 1902 41 OPH
McMullen, Joseph E., 1125 N. Main, 67501
(663-6121)
33 M 1902 62 GS
Moe, Frederick H., 2100 N. Jackson, 67501
(663-2108)
31 M 40710 62 P
Moorman, Victor R., 521 Wiley Bldg., 67501
(662-4458)
15 M 1902 40 OTO
Mull, John C., 1125 N. Main, 67501
(663-6121)
34 M 1902 61 OBG
Neel, Wilbur B., 1125 N. Main, 67501
(663-6121)
24 M 1902 59 IM
Neuschafer, Darrel R., 1125 N. Main, 67501
(663-6121)
48 M 1902 74 OBG
Nunemaker, Marion E., 919 N. Main, 67501
(662-5391)
21 M 1902 46 ANES
Openshaw, Calvin R., 1100 N. Main, 67501
(662-3305)
21 M 4901 44 GS
Paine, George E., 220 W. 23rd, 67501
(662-7434)
94 M 1606 19 OO
Perkins, Jack L., 1125 N. Main, 67501
(663-6121)
24 M 1902 53 FP
Schroll, Jack C., 1125 N. Main, 67501
(663-6121)
24 M 1902 49 OBG
Shaw, James W., Jr., P.O. Box 1646, 67501
(662-7801)
40 M 1902 65 PATH
Shears, Robert N., 1100 N. Main, 67501
(662-3364)
20 M 1902 44 PD
Stafford, Robert W., 1125 N. Main, 67501
(663-6121)
43 M 2101 69 IM
Stensaas, Carl O., 401 Wolcott Bldg., 67501
(663-9147)
10 M 1902 38 D
Stout, James M., 815 E. 56th, 67501
(663-6121)
29 M 1902 55 FP
Sumner, Joyce R., 2027 N. Madison, 67501
(662-0822)
26 F 1902 51 ANES
Sumner, Marion M., 1125 N. Main, 67501
(663-6121)
26 M 1902 52 IM
Tarm, Felix, 1100 N. Main, 67501
(663-1136)
39 M 1803 65 IM
Taylor, Elwyn J., 1100 N. Main, 67501
(663-1251)
34 M 1902 61 FP

Tweito, David H., 1100 N. Main, 67501
(662-3364)
38 M 1803 64 PD
Von Ruden, William J., 1100 N. Main, 67501
(662-3305)
26 M 1611 52 GS
Wolfe, John E., 1125 N. Main, 67501
(663-6121)
42 M 1902 68 PUD
Wortman, Jack A., 1125 N. Main, 67501
(663-6121)
34 M 1902 62 IM

INDEPENDENCE—316
(Southeast Kansas Society)

Barbera, Porter E., 800 W. Chestnut, 67301
(331-4400)
19 M 4707 46 FP
Beahm, Edgar H., 307 Professional Bldg., 67301
(331-2311)
13 M 1902 44 FP
Bullock, Harold O., P.O. Box 746, 67301
(331-1956)
06 M 1902 33 IM
Chappuie, William G., 800 W. Chestnut, 67301
(331-5440)
24 M 1902 51 FP
Emmot, William, 800 W. Chestnut, 67301
(331-6350)
45 M 1902 71 IM
Empson, Charles L., P.O. Box 848, 67301
(331-6019)
37 M 1902 68 FP
Knuth, Kenneth L., 313 Crestview Dr., 67301
(331-2200)
22 M 1902 50 R
Myers, Earl B., Jr., 800 W. Chestnut, 67301
(331-3420)
32 M 2803 64 S
Robinson, Edgar L., 209 N. 6th, 67301
(331-1450)
15 M 1902 42 FP
Sheikh, Masood A., 900 W. Myrtle, 67301
(331-2803)
44 M 70402 66 GS
Strahm, Waymer J., Rt. #1, Woodland View Acres, 67301
(331-1748)
29 M 1902 62 P

IOLA—316
(Allen County Society)

Copening, Tell B., 826 E. Madison, 66749
(365-2131)
43 M 1902 69 FP
DeTar, George, 219 W. Madison, 66749
(365-3712)
28 M 1902 57 GS
Dick, Willis G., 826 E. Madison, 66749
(365-2131)
13 M 512 41 GS
Hanson, David C., 826 E. Madison, 66749
(265-2131)
46 M 512 73 FP
Lenski, Frank X., Jr., 206 S. Jefferson, 66749
(365-3901)
26 M 1606 49 FP
Myers, W. Eugene, 211 South St., 66749
(365-3732)
12 M 1902 46 FP
Pees, Gerald B., 219 W. Madison, 66749
(365-5175)
15 M 1902 43 FP
Schmaus, Lyle F., 202 E St., 66749
(365-3611)
99 M 1803 26 IM

JETMORE—316
(Ford County Society)

O'Shea, James G., Jr., Box 545, 67854
(357-8321)
18 M 3901 48 GP

JEWELL—913
(Mitchell County Society)

Plowman, Carl W., 66949
(428-3511)
99 M 1606 26 FP

JOHNSON—316
(Southwest Kansas Society)

Dailey, Ronald F., P.O. Box 470, 67846
(492-6230)
31 M 1902 57 FP
Ramchandani, Ashok P., Box 460, 67855
(492-6230)
39 M 49555 64 FP

JUNCTION CITY—913
(Geary County Society)

Bollman, Charles S., Med. Clinic Bldg., 66441
(762-4575)
41 M 3901 66 GS
Brethour, Leslie J., 1106 St. Mary's Rd., 66441
(238-4151)
13 M 3006 39 FP
Bunker, Herbert L., Jr., 1106 St. Mary's Rd., 66441
(238-5131)
20 M 1606 45 FP
Copeland, Gary A., Geary Community Hosp., 66441
(762-2387)
42 M 1902 68 R
Labhsetwar, S. A., Med. Clinic Bldg., 66441
(762-4147)
39 F 49528 64 OBG
Mace, Ronald D., 1106 S. St. Marys, 66441
(762-4884)
42 M 3901 74 FP
Minnick, Charles V., 602 N. Jefferson, 66441
(762-2051)
08 M 2105 35 FP

Nemmers, David J., 1106 St. Mary's Rd., 66441
(762-5700)
34 M 1803 59 IM
O'Donnell, Harry E., 1106 St. Mary's Rd., 66441
(762-4947)
14 M 4113 42 FP
Scott, Alex, 507 W. 6th, 66441
(238-2518)
23 M 5605 48 FP
Smiley, William A., 240 W. 5th, 66441
(238-5798)
85 M 1903 10 OO
Wright, Stanley E., 1106 S. St. Marys, 66441
(762-4884)
47 M 3901 74 FP

KANSAS CITY, KANSAS—913
(Wyandotte County Society)

Abdou, Nabih I., K.U. Med. Center, 66103
(588-6587)
34 M 33002 59 A
Alexander, Charles E., 1703 N. 78th, 66112
(321-6670)
43 M 401 70 OBG
Alexander, Clyde W., 1514 N. 5th, 66101
(281-4380)
96 M 4707 23 FP
Algie, William H., 905 N. 7th, 66101
(281-2929)
02 M 1902 27 IM
Allen, Max S., K.U. Med. Center, 66103
(588-6988)
11 M 1902 37 IM
Allen, William R., 9201 Parallel, 66112
(334-4110)
22 M 1902 46 R
Allen, William R., Jr., 3615 Cambridge, 66103
(677-2092)
46 M 1902 Medical Student
Amare, Mammo, K.U. Med. Center, 66103
(588-6031)
36 M 60501 61 IM
Arakawa, Kasumi, K.U. Med. Center, 66103
(588-6670)
26 M 57211 53 ANES
Arvanitakis, Constantine, K.U. Med. Center, 66103
(588-6990)
39 M 41802 65 IM
Arvanitakis, Sanda, K.U. Med. Center, 66103
(588-6323)
39 F 41802 64 PD
Asher, Marc A., K.U. Med. Center, 66103
(588-6130)
36 M 1902 62 ORS
Atkins, Floyd L., Jr., K.U. Med. Center, 66103
(588-6015)
43 M 5104 69 CD
Azarnoff, Daniel L., K.U. Med. Center, 66103
(588-6026)
26 M 1902 55 IM
Baker, William S., K.U. Med Center, 66103
(588-6489)
47 M 702 73 P
Balsys, Raymond, K.U. Med. Center, 66103
(588-6800)
44 M 26405 70 R
Barnhorst, Donald A., K.U. Med. Center, 66103
(588-6107)
37 M 2834 63 TS
Bass, Lewis N., 1975 N. 5th, 66101
(321-2320)
21 M 1902 45 PD
Becker, Leslie E., 600 Nebraska, 66101
(342-4010)
23 M 1003 46 U
Bergin, James J., Bethany Med. Center, 66102
(281-8767)
28 M 2407 54 IM
Bettinger, Irene E. H., K.U. Med. Center, 66103
(588-6014)
41 F 4101 66 N
Bichlmeier, Franklin G., 115 S. 18th, 66102
(371-6800)
33 M 1902 58 TS
Bigongiari, Lawrence R., K.U. Med. Center, 66103
(588-6000)
44 M 1611 69 R
Boggan, Michael D., 155 S. 18th, 66102
(371-6800)
40 M 1201 67 CDS
Bolinger, Robert E., K.U. Med. Center, 66103
(588-6022)
19 M 1902 43 IM
Bolton, Victor E., 155 S. 18th, 66102
(371-2020)
24 M 1902 48 OBG
Bone, Roger C., K.U. Med. Center, 66103
(588-6044)
41 M 401 67 PUD
Bosilevac, Fred N., 155 S. 18th, 66102
(342-4843)
16 M 1902 44 OPH
Boudet, Robert A., K.U. Med. Center, 66103
(588-6128)
36 M 1103 62 GS
Brackett, Charles E., K.U. Med. Center, 66103
(588-6117)
20 M 3501 44 NS
Brathwaite, Harold M., 10 N. James, 66101
(281-3815)
87 M 1003 FP
Brillhart, Maxine T., 1610 Washington Blvd., 66102
(321-4800)
15 F 1902 50 FP
Brower, Anne C., K.U. Med. Center, 66103
(588-6800)
38 F 3501 64 R
Brown, Robert W., K.U. Med. Center, 66103
(588-5100)
23 M 1902 55 IM
Buakham, Chana, K.U. Med. Center, 66103
(588-6670)
37 M 89102 62 ANES
Bubb, Stephen K., K.U. Med. Center 66103
(588-5000)
48 M 1902 74 ORS (Res)

Burger, William E., 355 New Brotherhood Bldg., 66101
(371-1017)
22 M 3006 51 GS
Burket, George E., Jr., K.U. Med. Center, 66103
(588-6522)
12 M 1902 37 FP
Cameron, William J., K.U. Med. Center, 66103
(588-6200)
29 M 2501 54 OBG
Carey, Larry J., 4148 Booth Pl., 66103
(362-3038)
51 M Medical Student
Carpenter, Paul R., 155 S. 18th, 66102
(371-6800)
24 M 1902 50 TS
Carter, Robert P., Jr., K.U. Med. Center, 66103
(588-6217)
40 M 3901 65 OBG
Casteel, Charles K., 155 S. 18th, 66102
(342-7233)
34 M 3901 59 U
Chalian, Alexander R., 2648 Minnesota, 66102
(371-0307)
03 M 3509 37 ANES
Chang, C. H. Joseph, K.U. Medical Center, 66103
(588-6807)
29 M 58301 53 R
Chin, Tom D. Y., K.U. Med. Center, 66103
(588-7177)
22 M 2501 43 IM
Cho, Cheng T., K.U. Med. Center, 66103
(588-6336)
37 M 38501 62 PD
Chonko, Arnold M., K.U. Med. Center, 66103
(588-6969)
43 M 3840 69 NEP
Christian, Stanley J., 1003 Central, 66102
(371-1181)
18 M 1902 44 FP
Chun, Chung S., K.U. Med. Center, 66103
(588-6512)
30 F 58301 53 PD
Coale, Lloyd H., 5020 Greeley, 66104
(287-4748)
13 M 1902 43 OO
Cook, James D., K.U. Med. Center, 66103
(588-6031)
36 M 6505 60 HEM
Cooke, Allan R., K.U. Med. Center, 66103
(588-6990)
36 M 14303 58 IM
Cooper, Leo F., K.U. Med. Center, 66103
(588-6766)
15 M 1902 53 FP
Couch, James R., Jr., K.U. Med. Center, 66103
(588-6970)
39 M 4804 65 N
Cox, Ira L., III, 155 S. 18th, 66102
(371-4343)
43 M 1902 68 DR
Cox, Wallace F., 1854 Minnesota, 66102
(321-1199)
30 M 1902 56 GS

Crist, Robert D., K.U. Med. Center, 66103
(588-6200)
36 M 1902 63 OBG
Crockett, Charles A., 155 S. 18th, 66102
(342-2200)
19 M 401 44 OPH
Culp, Louis M., 1645 Washington, 66102
(371-1077)
24 M 1902 53 FP
Davis, Christopher G., 905 N. 7th, 66101
(321-9313)
09 M 1902 39 FP
Davis, James W., Jr., K.U. Med. Center, 66103
(588-4700)
33 M 4705 57 IM
Day, Hughes W., Bethany Medical Center, 66102
(281-8856)
15 M 1902 39 CD
Deitz, Michael R., 155 S. 18th, 66102
(342-2222)
32 M 4101 58 OPH
Delp, Mahlon H., K.U. Med. Center, 66103
(588-6976)
03 M 1902 34 IM
Diallo, Gaston I., 600 Nebraska, 66101
(281-2888)
35 M 86905 64 GE
Dick, Arthur R., K.U. Med. Center, 66103
(588-6970)
34 M 2301 65 N
Dickerson, Shelby C., K.U. Med. Center, 66103
(588-6015)
46 M 5101 72 IM (Res)
Diederich, Dennis A., K.U. Med. Center, 66103
(588-6981)
36 M 2834 61 IM
Diehl, Antoni M., K.U. Med. Center, 66103
(588-6311)
24 M 2604 47 PDC
Dudding, Burton A., K.U. Med. Center, 66103
(588-6339)
39 M 3520 64 PD
Dujovne, Carlos A., K.U. Med. Center, 66103
(588-7718)
37 M 13201 61 CP
Dunn, Marvin I., K.U. Med. Center, 66103
(588-6015)
27 M 1902 54 CD
Egea, Fernando M., 6013 Leavenworth Rd., 66104
(334-3400)
37 M 13206 62 NP
Eikermann, William C., K.U. Med. Center, 66103
(588-6464)
42 M 1902 69 P
Fitzpatrick, M. Robert, 1610 Washington Blvd., 66102
(321-4800)
20 M 1803 44 FP
Floersch, Hubert M., 155 S. 18th, 66102
(371-2020)
08 M 1902 35 OBG

Foret, John D., K.U. Med. Center, 66103
(588-6146)
26 M 1602 53 U

Foster, Frances M., 4th & State, 66101
(621-1088)
41 F 4707 67 FP

Fox, Howard A., K.U. Med. Center, 66103
(588-6337)
33 M 3501 62 PD

Francisco, Clarence L., 155 S. 18th, 66102
(371-6800)
09 M 1902 34 ORS

Francisco, W. David, 155 S. 18th, 66102
(371-6800)
21 M 1902 44 ORS

Friesen, Stanley R., K.U. Med. Center, 66103
(588-6108)
18 M 1902 43 GS

Gallehugh, Keith W., 155 S. 18th, 66102
(371-4343)
32 M 1902 57 R

Garth, Karen E., 2935 W. 43rd, 66103
(362-7276)
52 F Medical Student

Gilhousen, Frederic M., 1029 N. 32nd, 66102
(621-1066)
40 M 1902 66 ORS

Gilmore, Clarence A., 600 Nebraska, 66101
(321-6670)
31 M 4707 60 OBG

Godfrey, Robert G., K.U. Med. Center, 66103
(588-5371)
27 M 1902 58 RHU

Godfrey, William A., K.U. Med. Center, 66103
(588-6600)
38 M 1902 65 OPH

Goertz, Leo R., 155 S. 18th, 66102
(371-4343)
22 M 1902 52 R

Goldstein, Nathan, III, One Gateway Center, 66101
(321-3055)
45 M 1602 70 PD

Gonzalez, Giomar, K.U. Med. Center, 66103
(588-6800)
36 M 26404 61 R

Goto, Hiroshi, K.U. Med. Center, 66103
(588-6670)
42 M 57241 67 ANES

Grantham, Jared J., K.U. Med. Center, 66103
(588-6983)
36 M 1902 62 NEP

Greenberger, Norton J., K.U. Med. Center, 66103
(588-6001)
33 M 3806 59 GE

Gripkey, Clarence A., 811 N. 82nd Terr., 66112
(371-0117)
05 M 1902 30 OO

Gruendel, Richard A., 1029 N. 32nd, 66102
(281-5252)
29 M 1902 55 ORS

Gruendel, Virginia T., 6926 Garfield, 66102
(299-2787)
30 F 1902 55 FP

Gumucio, Mario L., 860 New Brotherhood Bldg., 66101
(321-4046)
30 M 64901 63 IM

Haas, Charles D., K.U. Medical Center, 66103
(588-6029)
39 M 1902 68 IM

Habersang, Rolf, K.U. Med. Center, 66103
(588-6324)
41 M 86901 70 PD

Hancock, Alan C., 9201 Parallel, 66112
(299-0130)
35 M 1902 65 FP

Hara, Glenn S., K.U. Med. Center, 66103
(588-6219)
43 M 502 69 OBG

Hardin, Creighton A., K.U. Med. Center, 66103
(588-6106)
18 M 5605 43 GS

Hartman, Charles R., K.U. Med. Center, 66103
(588-5551)
37 M 1902 66 END

Hartman, Gerald V., K.U. Med. Center, 66103
(588-7350)
20 M 1902 45 TR

Haswell, Glenn L., K.U. Med. Center, 66103
(588-6200)
41 M 1001 67 OBG

Hathaway, Peter, K.U. Med. Center, 66103
(588-6043)
31 M 3503 60 IM

Hermreck, Arlo S., K.U. Med. Center, 66103
(588-7232)
38 M 1902 65 GS

Hiebert, Peter E., 155 S. 18th, 66102
(371-4343)
03 M 1902 34 R

Hinthorn, Daniel R., K.U. Med. Center, 66103
(588-6035)
41 M 1902 67 IM

Hodges, Glenn R., K.U. Med. Center, 66103
(588-6035)
41 M 1602 67 ID

Holbert, Lelond L., 1854 Minn., 66102
(321-3838)
15 M 1003 46 FP

Holdcraft, Jacquelyne, 225 New Brotherhood Bldg., 66101
(321-1161)
36 F 2105 63 OTO

Holleman, James F., Jr., D.O., 667 S. 55th, 66106
(287-1414)
38 M 2840 68 FP

Hollowell, Joseph G., Jr., K.U. Med. Center, 66103
(588-7179)
32 M 4501 59 PD

Holmes, Frederick F., K.U. Med. Center, 66103
(588-6987)
32 M 5404 57 IM

Holmes, Grace E., K.U. Med. Center, 66103
(588-6325)
32 F 5404 57 PD
Hoogstraten, Barth, K.U. Med. Center, 66103
(588-6029)
24 M 66001 55 IM
Hudson, Robert P., K.U. Med. Center, 66103
(588-7040)
26 M 1902 52 HM
Huerter, Quentin C., 771 New Brotherhood Bldg., 66101
(321-5370)
31 M 1902 59 OPH
Huff, John D., 1428 S. 32nd, 66106
(384-1630)
21 M 1902 52 FP
Humphrey, Loren J., 70 Terrace Trail, Lake Quivira, 66106
(631-2538)
31 M 1611 56 GS
Hurwitz, Aryeh, K.U. Med. Center, 66103
(588-7700)
36 M 2802 61 IM
Huycke, Maureen D., 1912 W. 37th, 66103
(432-8486)
51 F Medical Student
Ibarra, Richard C., 754 Pacific, 66101
(342-3969)
26 M 64902 57 FP
Ingram, John E., 1428 S. 32nd, 66106
(384-1630)
24 M 3006 56 FP
Innes, Robert C., 8929 Parallel Parkway, 66112
(334-2500)
25 M 2802 49 R
Jackson, Roger P., K.U. Med. Center, 66103
(588-6130)
47 M 2803 73 ORS (Res)
Jacobs, David S., 8929 Parallel Parkway, 66112
(334-2500)
31 M 2501 56 PATH
Jacobs, Rae R., K.U. Med. Center, 66103
(588-6131)
36 M 3506 62 ORS
Jahanian, Daryoush, 155 S. 18th, 66102
(371-2020)
40 M 51701 64 OBG
Jakowatz, James G., 4308 Rainbow, 66103
(722-3989)
53 M 1902 Medical Student
Jayaram, Marandapalli R., 6420 Parallel, 66102
(299-8000)
42 M 49509 65 PD
Jensen, Thomas M., K.U. Med. Center, 66103
(588-6129)
47 M 3005 73 ORS (Res.)
Jewell, William R., K.U. Med. Center, 66103
(588-6112)
35 M 1611 61 GS
Johnson, John E., 51 N. 12th, 66102
(281-8816)
17 M 4706 43 PATH
Jones, Herman H., 600 Nebraska, 66101
(342-4010)
25 M 4707 54 GS
Kalivas, James T., K.U. Med. Center, 66103
(588-6028)
38 M 502 63 D
Kauffman, Ralph E., K.U. Med. Center, 66103
(588-6324)
39 M 1902 65 PD
Kennedy, James A., K.U. Med. Center, 66103
(588-6000)
35 M 2834 61 IM
Kepes, John J., K.U. Med. Center, 66103
(588-7076)
28 M 47301 52 PATH
Kerby, Gerald R., K.U. Med. Center, 66103
(588-6044)
32 M 1902 58 PUD
Ketchum, Lynn D., K.U. Med. Center, 66103
(588-6143)
36 M 2101 60 PS
Kim, Jong M., K.U. Med. Center, 66103
(588-6670)
40 M 58302 64 ANES
Kirchner, Fernando R., Lake Quivira, 66106
(588-6700)
30 M 64901 55 OTO
Kishore, Pulla R. S., K.U. Med. Center, 66103
(588-6800)
37 M 49521 62 R
Krantz, Kermit E., K.U. Med. Center, 66103
(588-6201)
23 M 1606 48 OBG
Krueger, Alan L., K.U. Med. Center, 66103
(588-6412)
41 M 1902 67 P
Kwee, Sioe T., 8929 Parallel Parkway, 66112
(334-2500)
36 F 1720 63 PATH
Kyner, Joseph L., K.U. Med. Center, 66103
(588-5554)
34 M 1902 60 IM
Laing, Robert R., 155 S. 18th, 66102
(371-4301)
37 M 1643 61 GE
Lansky, Lester L., K.U. Med. Center, 66103
(588-6300)
33 M 2604 65 PDN
Lansky, Shirley B., K.U. Med. Center, 66103
(588-6302)
35 F 2604 60 PD
Laybourne, Paul C., Jr., Lake Quivira, 66106
(588-6475)
19 M 3509 44 CHP
Leake, Hunter C., III, K.U. Med. Center, 66103
(588-6300)
37 M 2105 63 PD
Lee, James G., Jr., 155 S. 18th, 66102
(371-2330)
18 M 1902 44 OBG

Lee, Kyo Rak, K.U. Med. Center, 66103
(588-6800)
33 M 58302 59 R
Lemoine, Albert N., Jr., K.U. Med. Center, 66103
(588-6600)
18 M 2802 43 OPH
Lester, John B., K.U. Med. Center, 66103
(588-6489)
45 M 1902 70 P (Res.)
Lindsley, Carol B., K.U. Med. Center, 66103
(588-6325)
41 F 5404 68 PD
Lindsley, Herbert B., K.U. Med. Center, 66103
(588-6586)
40 M 1902 66 RHU
Linshaw, Michael A., K.U. Med. Center, 66103
(588-6323)
40 M 4109 66 PD
Lipschitz, David A., K.U. Med. Center, 66103
(588-6937)
43 M 83601 66 HEM
Lloyd, Harvey L., 3200 Strong, 66106
(588-1111)
08 M 1803 36 FP
Lowman, James T., K.U. Med. Center, 66103
(588-5701)
31 M 401 58 PD
Lukert, Barbara P., K.U. Med. Center, 66103
(588-5554)
34 F 1902 60 IM
Maddux, Bill D., 860 New Brotherhood Bldg., 66101
(321-4046)
46 M 1902 72 IM
Maklad, M. Nabil, K.U. Med. Center, 66103
(588-6884)
38 M 33003 61 R
Mangum, Wm. Barton, K.U. Med. Center, 66103
(588-6700)
44 M 4706 69 ENT (Res)
Mani, M. Mani, K.U. Med. Center, 66103
(588-6136)
37 M 49527 60 PS
Mansfield, Carl M., K.U. Med. Center, 66103
(588-7350)
28 M 1003 56 R
Mantz, Frank A., Jr., K.U. Med. Center, 66103
(588-7070)
12 M 4101 38 PATH
Martin, Norman L., K.U. Med. Center, 66103
(588-6800)
36 M 1902 62 R
Marvin, Norman G., K.U. Med. Center, 66103
(588-6394)
29 M 1902 56 FP
Masters, Frank W., K.U. Med. Center, 66103
(588-6142)
20 M 3545 45 PS
Masterson, Byron J., K.U. Med. Center, 66103
(588-6216)
33 M 2802 58 GYN
Mathewson, Hugh S., K.U. Med. Center, 66103
(588-6675)
21 M 1902 44 ANES
Mattioli, Leone, K.U. Med. Center, 66103
(588-6311)
32 M 56115 56 PDC
McCarthy, Robert P., 155 S. 18th, 66102
(342-7233)
25 M 2834 53 U
McGuire, Michael R., 155 S. 18th, 66102
(371-3515)
43 M 1902 71 CD
McSwain, Norman E., Jr., K.U. Med. Center, 66103
(588-6111)
37 M 102 63 GS
Mebust, Winston K., K.U. Med. Center, 66103
(588-6148)
33 M 5404 58 U
Medearis, Donald N., 3100 Minn. Ave., Apt. 102W., 66102
(371-6787)
01 M 2401 27 OO
Meek, Joseph C., Jr., K.U. Med. Center, 66103
(588-5551)
31 M 1902 57 IM
Mesina, Rolando R., 1102 Minnesota Avenue, 66102
(381-3829)
37 M 74801 61 GS
Miller, Herbert C., K.U. Med. Center, 66103
(588-6302)
07 M 801 34 PD
Moeller, Donald D., 155 S. 18th, 66102
(371-4301)
34 M 1902 60 GE
Moffat, Robert E., K.U. Med. Center, 66103
(588-6800)
42 M 1902 68 R
Moore, Wayne V., K.U. Med. Center, 66103
(588-6336)
42 M 2604 70 PD
Morantz, Robert A., K.U. Med. Center, 66103
(588-6119)
42 M 3519 67 NS
Morffi, Raul R., 5411 Leavenworth Rd., 66104
(287-8300)
25 M 27501 51 IM
Morrison, Richard A., K.U. Med. Center, 66103
(588-6815)
34 M 1902 60 R
Mullen, Clifford J., Sr., 1828 Washington Blvd., 66102
(281-3154)
98 M 3006 23 OPH
Mullen, Clifford J., Jr., 9201 Parallel, 66112
(334-4250)
38 M 1902 64 OPH
Nason, Herbert M., 1225 N. 78th, 66112
(299-1616)
30 M 1902 56 FP
Neff, James R., K.U. Med. Center, 66103
(588-6198)
40 M 1902 66 ORS
Neighbor, Ernest G., 1420 S. 42nd, 66106
(588-1100)
06 M 1902 33 FP

Neighbor, Gaylord P., 1420 S. 42nd, 66106
(588-1100)
13 M 1902 41 FP

Nohe, Philip C., 266 New Brotherhood Bldg., 66101
(321-4422)
17 M 1902 42 ORS

Norris, Charley W., K.U. Med. Center, 66103
(588-6700)
33 M 1902 64 OTO

Nothnagal, Arnold F., 1610 Washington Blvd., 66102
(342-1100)
15 M 1902 39 GS

Oldfield, Ray W., 7735 Washington Ave., 66112
(334-6510)
45 M 1902 72 FP

Pardo, Lillian G., K.U. Med. Center, 66103
(588-5909)
39 F 74807 62 PDN

Pardo, Manuel P., K.U. Med. Center, 66103
(588-6464)
35 M 74801 62 P

Park, Chan H., K.U. Med. Center, 66103
(588-6029)
36 M 58302 62 IM

Parmley, Ray T., K.U. Med. Center, 66103
(588-7146)
19 M 2101 44 ANES

Parra, Miguel D., 6013 Leavenworth Rd., 66104
(299-2088)
37 M 84710 64 FP

Pazell, John A., 155 South 18th St., 66102
(371-6800)
40 M 2501 66 ORS

Pecaña, Manuel C., Bethany Med. Center, 66102
(281-8896)
45 M 74801 69 ANES

Perry, Lawrence L., Jr., 4125 Rainbow Blvd., 66103
(588-6522)
34 M 1902 59 FP

Peters, Glenn R., 155 S. 18th, 66102
(371-6800)
12 M 1902 37 GS

Pilchard, William A., K.U. Med. Center, 66103
(588-6600)
39 M 1602 65 OPH

Pingleton, William W., K.U. Med. Center, 66103
(588-6044)
42 M 3901 67 PUD

Pischke, Frank J., 255 New Brotherhood Bldg., 66101
(321-1161)
36 M 1902 62 OTO

Pol, P. Albert, K.U. Med. Center, 66103
(588-6464)
36 M 84710 67 P

Porter, David M., 4517 Troup, 66102
(287-8800)
39 M 4707 64 PD

Potter, Robert L., 1969 N. 33rd, 66104
(321-0341)
38 M 1902 64 IM

Powers, G. Robert, 9201 Parallel, 66112
(299-0130)
33 M 1902 65 FP

Premsingh, Nalini G., 6013 Leavenworth Rd., 66104
(299-2088)
39 F 49508 65 CD

Preston, David F., K.U. Med. Center, 66103
(588-6841)
33 M 3841 59 NM

Pretz, James B., 1610 Washington, 66102
(342-2442)
24 M 1902 47 FP

Proud, G. O'Neil, K.U. Med. Center, 66103
(588-6700)
13 M 2802 39 OTO

Pugh, David M., K.U. Med. Center, 66103
(588-6015)
29 M 801 58 CD

Rau, Jerold M., K.U. Med. Center, 66103
(588-6028)
39 M 1902 65 D

Reckling, Frederick W., K.U. Med. Center, 66103
(588-6129)
34 M 3545 59 ORS

Reddy, Eashwer K., K.U. Med. Center, 66103
(588-7350)
44 M 49597 68 R

Redford, John W. B., K.U. Med. Center, 66103
(588-6791)
28 M 6501 53 PM

Reeve, Arnold M., 619 Ann Avenue 66107
(321-4803)
18 M 2507 50 PH

Regier, Henry L., 2000 Washington Blvd., 66102
(371-1190)
81 M 1902 07 OO

Rettenmaier, Albert J., 251 N. 15th St., 66102
(371-2959)
96 M 3006 26 OO

Rhodes, James B., K.U. Med. Center, 66103
(588-6019)
28 M 1902 58 GE

Rhodes, Martin L., 1969 N. 33rd, 66104
(321-0341)
47 M 1902 72 IM

Rice, Fred A., Jr., 1029 N. 32nd, 66102
(281-5252)
36 M 4802 63 ORS

Rick, Gregory G. P., Jr., 155 S. 18th, 66102
(371-4301)
40 M 1902 66 GE

Riley, Ray B., 2020 Orville Ave., 66102
(281-1013)
06 M 1902 36 OO

Rising, Jesse D., K.U. Med. Center, 66103
(588-7130)
14 M 1902 38 IM

Robinson, David W., K.U. Med. Center, 66103
(588-6136)
14 M 4101 38 PS

Robinson, Ralph G., K.U. Med. Center, 66103
(588-6810)
37 M 1902 62 NM

Robison, James T., K.U. Med. Center, 66103
(588-6600)
21 M 4812 45 OPH

Rook, Lee E., 4116 Strong, 66106
(588-2834)
09 M 1902 38 FP

Rosenfeld, Warren N., K.U. Med. Center, 66103
(588-6337)
43 M 3519 69 PD

Roth, Alan E., 51 N. 12th St., 66102
(281-8814)
35 M 1902 62 PATH

Rubin, Ben, Jr., 132 South 17th, 66102
(371-2561)
37 M 3005 61 PD

Ruth, William E., K.U. Med. Center, 66103
(588-6044)
26 M 1902 53 IM

Ryan, Michael J., 764 New Brotherhood Bldg., 66101
(342-7070)
14 M 2834 37 OTO

Salomon, Alfie, 3500 Rainbow, 66103
(432-3300)
33 M 13201 57 CHP

Santiago, Eleanor M., K.U. Med. Center, 66103
(588-6044)
38 F 74801 61 IM

Savin, Michael A., K.U. Med. Center, 66103
(588-6935)
44 M 4112 69 HEM

Savin, Virginia J., K.U. Med. Center, 66103
(588-6969)
44 F 4112 70 IM

Schaum, Stephen P., 4517 Troup, 66102
(287-8800)
44 M 1902 70 PD

Schimke, R. Neil, K.U. Med. Center, 66103
(588-6043)
35 M 1902 62 IM

Schloerb, Paul R., K.U. Med. Center, 66103
(588-6110)
19 M 3545 44 GS

Schotland, Edward S., 1300 N. 78th, 66112
(334-5250)
36 M 86901 66 D

Schrepfer, Rosemary, K.U. Med. Center, 66103
(588-6290)
22 F 1902 47 OBG

Sereres, Edgar P., 662 New Brotherhood Bldg., 66101
(321-2501)
15 M 1902 39 A

Sherman, Robert P., 9201 Parallel Ave., 66112
(334-0040)
34 M 1902 63 PUD

Sibala, Justo L., K.U. Med. Center, 66103
(588-6831)
20 M 74802 49 R

Sifers, Earl C., 155 S. 18th, 66102
(371-2900)
24 M 1902 47 GS

Silvers, Alvin, 1702 Southwest Blvd., 66103
(236-9691)
18 M 1902 45 FP

Snow, Arthur D., Jr., K.U. Med. Center, 66103
(588-6522)
45 M 1902 75 FP (Res)

Sosnow, William, K.U. Med. Center, 66103
(588-6516)
35 M 3509 65 IM

Soucek, Charles D., 2807 Ohio, 66102
(371-4343)
31 M 3005 56 R

Spaulding, John S., K.U. Med. Center, 66103
(588-5919)
29 M 1602 59 PD

Speer, Leland, 910 N. Washington, 66102
(321-6147)
12 M 1902 36 OO

Stechschulte, Daniel J., K.U. Med. Center, 66103
(588-6008)
36 M 2834 62 IM

Steele, Clarence H., 255 New Brotherhood Bldg., 66101
(321-1161)
14 M 1902 40 OTO

Steinzeig, Sherman M., 155 S. 18th, 66102
(621-1151)
25 M 1902 52 CD

Stephens, Ronald L., K.U. Med. Center, 66103
(588-6029)
39 M 1902 65 IM

Stevenson, Charles E., K.U. Med. Center, 66103
(588-6670)
19 M 1902 44 ANES

Stitt, Ronald W., 155 S. 18th, 66102
(342-7233)
21 M 1902 45 U

Strick, Frank J., 1003 Central, 66102
(371-6841)
17 M 1902 48 FP

Stubblefield, Charles T., 155 S. 18th, 66102
(371-2330)
32 M 1902 58 OBG

Taylor, Thomas L., 155 S. 18th, 66102
(371-2900)
40 M 1902 66 GS

Templeton, Arch W., K.U. Med. Center, 66103
(588-6805)
32 M 3005 57 R

Teng, Sioe Hong, 2205 W. 36th, 66103
(384-1880)
33 M 50602 60 P

Therou, Leona F., K.U. Med. Center, 66103
(588-5908)
41 F 6701 67 PD

Thomas, James H., K.U. Med. Center, 66103
(588-6115)
41 M 2012 66 GS
Thompson, Dannie M., One Gateway Center, 66101
(321-3355)
35 M 4707 64 OBG
Toalson, William B., 155 S. 18th, 66102
(371-3515)
37 M 1902 63 CD
Tretbar, Lawrence L., 155 S. 18th Street, 66102
(371-7650)
33 M 1902 60 GS
Trueworthy, Robert C., K.U. Med. Center, 66103
(588-6340)
40 M 2802 66 PD
Tucker, Sheridan G., 3838 Rainbow, Apt. 1109, 66103
(362-6919)
50 M 1902 75 P (Res)
Ueda, Issaku, K.U. Med. Center, 66103
(588-6670)
24 M 57220 48 ANES
Unger, James L., K.U. Med. Center, 66103
(588-7070)
46 M 519 71 PATH (Res)
Valk, William L., K.U. Med. Center, 66103
(588-6146)
09 M 2501 37 U
Vats, Tribhawan S., K.U. Med. Center, 66103
(588-6340)
40 M 49529 63 PD
Waddell, Bill D., 155 S. 18th, 66102
(321-0386)
31 M 3901 56 IM
Walker, Jack D., K.U. Med. Center, 66103
(588-6510)
22 M 1902 53 FP
Walker, Maurice A., 1417 S. 37th St., 66106
(321-1422)
04 M 1601 28 GS
Waters, Chester H., III, K.U. Med. Center, 66103
(588-6131)
49 M 3005 75 ORS (Res)
Waxman, David, K.U. Med. Center, 66103
(588-5207)
18 M 3515 50 IM
Weigel, John W., K.U. Med. Center, 66103
(588-6148)
29 M 1902 54 U
Werth, Claude J., 9201 Parallel Pkwy., 66112
(334-0040)
37 M 1902 64 P
West, C. Omer, 414 Huron Bldg., 66101
(371-3572)
92 M 1902 23 D
Williams, Sterling B., Jr., K.U. Med. Center, 66103
(588-5000)
41 M 401 73 OBG
Winter, Calvert J., 132 S. 17th, 66102
(371-2561)
22 M 1902 47 PD
Wolf, Karl T., 621 Northrup Ave., 66101
(281-0997)
14 M 1902 48 OO
Wolkoff, A. Stark, K.U. Med. Center, 66103
(588-6219)
21 M 4109 50 OBG
Wong, Bert Y., K.U. Med. Center, 66103
(588-6015)
40 M 801 65 CD
Wright, Robert W., 669 New Brotherhood Bldg., 66101
(371-5344)
24 M 1902 48 GS
Youngstrom, Karl A., 6 Arapaho Lane, Lake Quivira, 66106
(631-8536)
08 M 3607 44 OO
Yulich, John O., 1428 S. 32nd, 66106
(384-1630)
33 M 1902 59 FP
Ziegler, Dewey K., K.U. Med. Center, 66103
(588-6970)
20 M 2401 45 N
Zinn, Thomas W., K.U. Med. Center, 66103
(371-4343)
41 M 1902 67 R

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Barry, John W., 4620 J. C. Nichols Pkwy., 64112
(753-4011)
22 M 1902 46 R
Calkins, W. Graham, V.A. Hospital, 64128
(861-4700)
26 M 2501 50 GE
Coulter, Thomas B., 4620 J. C. Nichols Pkwy., 64112
(931-0833)
38 M 1205 64 OPH
Cronemeyer, Richard L., 212 W. 78th Terr., 64114
(361-2317)
52 M Medical Student
Cross, Donald E., 4801 Linwood Blvd., 64128
(861-4700)
38 M 2803 65 IM
Crouch, Steven W., 6529 Edgevale Rd., 64113
(444-9806)
51 M 1902 76 PD (Res)
Fowler, James T., V.A. Hospital, 64128
(861-4700)
12 M 1902 36 FP
Henderson, John M., 4130 Bell St., 64111
Medical Student
Huffman, David H., V.A. Hosp., 64128
(861-4700)
41 M 1902 67 IM
Johns, Leo E., Jr., V.A. Hospital, 64128
(861-4700)
22 M 2101 45 PUD
Kelly, Charles R., St. Lukes Hosp., 64111
(932-2020)
38 M 1902 64 PM

Lewis, H. Daniel, Jr., 4801 Linwood Blvd., 64128
(861-4700)
32 M 5101 58 CD
Ma, Frank H., 6644 Cherry, 64131
(361-9586)
48 M 401 72 IM
Powell, Kenneth A., 3520 Broadway, Box 139, 64141
(753-7000)
25 M 1902 53 IM
Radom, Sanford B., 4620 J. C. Nichols Pkwy., 64112
(753-4011)
40 M 1642 66 R
Sulit, Arnulfo P., P.O. Box 19595, 64141
(753-8713)
36 M 74802 57 IM

KINGMAN—316
(Pratt-Kingman Society)

Bloom, L. Theil, 708 N. Main, 67068
(532-5233)
32 M 1902 57 R
Boyer, Robert E., 349 N. Main, 67068
(532-3171)
36 M 1902 62 FP

KINSLEY—316
(Edwards County Society)

Atwood, M. Dale, 616 Niles, 67547
(659-2114)
19 M 1902 51 FP
McKim, W. Lynn, 109 W. 8th, 67547
(659-2137)
33 M 1902 59 FP
Schnoebelen, René E., 807 E. 4th, 67547
(659-2141)
16 M 3901 41 GP

KIOWA—316
(Tri-County Society)

Christensen, Marion D., 802 Drumm, 67070
(825-4121)
25 M 3901 52 FP

LA CROSSE—913
(Central Kansas Society)

Serrano, Joaquin, 817 Locust, 67548
(222-2564)
29 M 27501 56 FP

LANSING—913
(Leavenworth County Society)

Snow, Donald L., Holiday Plaza, 66043
(727-3204)
21 M 64904 54 OBG

LARNED—316
(Pawnee County Society)

Blount, Justin A., 621 W. 5th, 67550
(285-2843)
94 M 1902 21 OO
Brenner, William R., 804 Carroll, 67550
(285-3133)
15 M 3006 39 FP
Cram, Ole R., Jr., 722 Mann, 67550
(285-2141)
18 M 1902 43 FP
Davis, David H., 815 W. 6th, 67550
(285-2131)
04 M 1902 30 P
Ewing, Thomas D., 804 Carroll, 67550
(285-3133)
22 M 1902 46 FP
Patterson, Alice W., Box 7, 67550
(285-3532)
13 F 1902 38 OO
Patterson, Harold L., Box 7, 67550
(285-3636)
13 M 1902 38 OO
Shepard, LeRoy W., 603 W. 5th, 67550
(285-2023)
04 M 3006 30 OO
Smith, John D., 804 Carrol, 67550
(285-3133)
22 M 3901 51 FP

LAWRENCE—913
(Douglas County Society)

Anderson, Winstan L., 3603 W. 10th, 66044
(884-5914)
09 M 1902 34 OO
Auchard, Virgil M., 2126 Louisiana, 66044
(843-3119)
89 M 1902 23 OO
Bailey, William A., 404 Maine, 66044
(843-9125)
40 M 1902 66 ORS
Bell, Margaret E., 930 Iowa, 66044
(841-3535)
37 F 1902 63 CHP
Belot, Monti L., Jr., Lawrence Natl. Bk. Bldg., 66044
(843-3640)
13 M 1902 40 FP
Bieri, Peter V., 944 Kentucky, 66044
(841-5217)
45 M 1902 71 ENT
Bittenbender, Lee R., 930 Iowa, 66044
(842-7001)
46 M 1902 72 D
Blair, Richard, 404 Maine, 66044
(842-3635)
34 M 1902 60 IM
Boyden, Mary S., 346 Maine, 66044
(842-3778)
14 F 2604 38 PDA
Branson, Vernon L., 346 Maine, 66044
(842-4477)
17 M 1902 42 PD
Bray, E. Dean, 346 Maine, 66044
(842-5070)
29 M 1902 60 FP
Bruner, Steven C., 404 Maine St., 66044
(841-6540)
46 M 1902 72 FP

Buck, Henry W., Jr., 4th & Maine, 66044
(843-0677)
34 M 1902 60 OBG
Button, Jesse H., 935 Iowa, 66044
(841-3535)
35 M 1902 63 P
Chediak, Elias, 601 Missouri, 66044
(841-7430)
39 M 84704 65 P
Clark, Margaret G., Hillcrest Med. Center, 66044
(843-3888)
10 F 1902 44 FP
Clark, Ray A., 2103 Kingston Dr., 66044
(843-1005)
07 M 1902 39 FP
Clinton, Dale L., 15 E. 7th, 66044
(841-5716)
21 M 1902 54 FP
Culver, Warren T., 2500 W. 6th, 66044
(842-4178)
20 M 3508 46 OPH
Dunlap, Richard L., 4th & Maine, 66044
(842-4344)
12 M 3005 37 EENT
Friesen, Dale, 2500 W. 6th, 66044
(842-7026)
47 M 1902 74 ANES
Gilles, Helen M., 4th & Maine, 66044
(842-4477)
22 F 1902 45 PD
Godwin, Phillip A., 346 Maine, 66044
(842-1070)
28 M 1902 55 ANES
Hatton, Donald W., 404 Maine, 66044
(842-3635)
42 M 1902 68 IM
Hermes, Richard L., 4th & Maine, 66044
(843-0677)
15 M 4112 39 OBG
Hiebert, David L., 404 Maine, 66044
(841-3211)
36 M 1902 61 R
Hird, Wayne E., 329 Missouri, 66044
(842-4300)
26 M 1902 50 TS
Hsu, Cheng-Chih, 4th & Maine, 66044
(842-1070)
44 M 38502 70 ANES
Hughes, Robert W., 346 Maine, 66044
(843-1374)
27 M 1902 54 FP
Ingham, H. Laird, 404 Maine, 66044
(842-3635)
45 M 3901 70 IM
Jones, H. Penfield, 346 Maine, 66044
(842-0211)
06 M 2401 31 GS
Joseph, Howard F., 944 Kentucky, 66044
(843-3981)
26 M 1902 51 U
Kimbrough, Victoria F., 935 Iowa, 66044
(843-8425)
10 F 4706 37 OPH

Learned, George R., 401 Arkansas, 66044
(843-5502)
22 M 1902 55 GS
Lessenden, Glenn A., 346 Maine, 66044
(843-6233)
24 M 1902 48 FP
Loveland, G. Charles, 4th & Maine, 66044
(842-4477)
47 M 1902 73 PD
Madsen, Glenn L., 404 Maine, 66044
(841-3211)
38 M 3005 65 R
Manahan, G. Eugene, 4th & Maine, 66044
(842-0211)
19 M 1902 44 GS
Moddrell, Carol A., 3506 Tam O'Shanter, 66044
(843-3680)
45 F 1902 71 PATH
Nelson, Richard O., 201 W. 8th, 66044
(843-0921)
11 M 1001 41 FP
Oelschlager, Ronald D., 404 Maine, 66044
(841-3211)
43 M 1902 69 R
Olson, Carl E., 107 W. 7th, 66044
(842-9911)
17 M 1611 46 FP
Orchard, Richard A., 932 Massachusetts, 66044
(841-2280)
41 M 2802 68 OPH
Owen, Garry D., 4th & Maine, 66044
(843-0677)
37 M 1902 63 OBG
Price, Laurance W., Jr., 404 Maine, 66044
(843-3680)
33 M 1902 59 PATH
Reed, Ralph R., 404 Maine, 66044
(842-3635)
27 M 1902 53 IM
Reese, John L., 4th & Maine, 66044
(842-6644)
35 M 1902 61 GS
Roberts, Richard S., 308 Maine, 66044
(843-6137)
19 M 2802 44 GS
Robison, Corbin E., 901 Kentucky, 66044
(843-3033)
14 M 1902 39 GS
Rothrock, Irvin A., 930 Iowa, 66044
(842-8639)
26 M 401 52 CHP
Sanders, J. Alan, 404 Maine, 66044
(842-2083)
29 M 1902 60 PATH
Schroeder, Sydney O., Watkins Memorial Hosp., 66044
(864-4045)
18 M 1902 44 P
Schwegler, Raymond A., 1504 University Dr., 66044
(843-4455)
07 M 2604 31 OBG
Walters, Byron W., 1030 Avalon Rd., 66044
(843-6751)
13 M 1902 39 FP

Well, Michael A., 944 Kentucky, 66044
(843-3981)
41 M 1606 67 U
Wertzberger, John J., 404 Maine, 66044
(843-9125)
36 M 1902 63 ORS
Wilcox, Howard L., 346 Maine, 66044
(843-0677)
18 M 3520 44 OBG
Wollmann, Martin, Watkins Memorial Hosp., 66044
(843-9530)
26 M 1902 70 IM
Wright, M. Erik, 2728 Stratford Rd., 66044
(843-3360)
15 M 502 50 P

LEAVENWORTH—913
(Leavenworth County Society)

Anwar, M. Zia, 109 Delaware, 66048
(682-6661)
39 M 11801 67 IM
Barry, David R., 500 Eisenhower Rd., 66048
(727-6000)
42 M 1902 68 FP
Bennett, Charles A., 520 6th Ave., 66048
(682-4373)
96 M 1902 25 FP
Cenac, Mark T., 500 Eisenhower Rd., 66048
(727-6000)
27 M 401 49 GS
Chanpong, Sala, 500 Eisenhower Rd., 66048
(727-6000)
46 M 89103 70 OBG
Combs, G. Ralph, 211 Arch St., 66048
(682-0478)
79 M 4101 02 OO
Duysak, Sami, 520 6th Ave., 66048
(682-6661)
22 M 90201 47 IM
Gerber, Harry A., 605 N. 6th St., 66048
(682-3893)
96 M 5606 30 FP
Gerjarusak, Prapas, 500 Eisenhower Rd., 66048
(727-6000)
46 M 89101 71 IM
Graham, J. Malcolm, 500 Eisenhower Rd., 66048
(727-6000)
28 M 3840 54 PD
Graham, Kenneth L., 500 Eisenhower Rd., 66048
(727-6000)
21 M 3840 45 GS
Graham, Thomas W., 500 Eisenhower Rd., 66048
(727-6000)
26 M 3840 50 IM
Grisolia, Andres, 424 Walnut, 66048
(682-5400)
27 M 84708 50 ORS
Hammeke, John C., 520 6th Ave., 66048
(682-5201)
27 M 401 61 OPH
Johnson, Paul D., Med. Arts Bldg., 66048
(682-6661)
36 M 1902 61 FP
McCollum, Mary B., 520 Sixth Ave., 66048
(651-6566)
43 F 4804 68 P
McCollum, William B., Med. Arts Bldg., 66048
(682-6661)
41 M 1902 66 TS
McKee, Richard S., 422 Walnut, 66048
(682-1023)
05 M 1902 35 ANES
Merritt, W. Henry, 520 6th Ave., 66048
(682-6661)
14 M 702 39 GS
Palmer, Marvin M., 500 Eisenhower Rd., 66048
(727-6000)
45 M 71 701 OBG
Parker, Robert W., 500 Eisenhower Rd., 66048
(727-6000)
45 M 1902 71 FP
Pratt, William L., 901 6th Ave., 66048
(682-1886)
05 M 3006 30 OO
Rabe, Melvin A., 520 6th Ave., 66048
(682-6661)
14 M 1902 37 GS
Strutz, William C., 68 Westwood Dr., 66048
(682-8868)
08 M 5606 43 R
Voorhees, Carroll D., 520 6th Ave., 66048
(682-6661)
25 M 1902 52 FP
Voorhees, Gordon S., 520 6th Ave., 66048
(682-6661)
12 M 1902 39 IM

LEAWOOD (*see* Shawnee Mission)

LENEXA (*see* Shawnee Mission)

LENORA—913
(Northwest Kansas Society)

Steichen, Edward F., 67645
(567-4310)
05 M 1601 31 FP

LIBERAL—316
(Seward County Society)

Allen, Ray E., 2 Plaza Drive, 67901
(624-5691)
37 M 1902 64 IM
Campion, Woodrow M., 121 W. 3rd, 67901
(624-2594)
13 M 1902 39 IM
Grimes, I. Ross, P.O. Box 319, 67901
(624-1676)
27 M 3901 54 TS
Harris, Norvan D., 222 W. 15th, 67901
(624-3811)
20 M 1902 44 OBG
Holcomb, William M., 15th E. 11th, 67901
(624-2252)
31 M 3901 56 GS
Koons, Jess W., 1210 N. Washington, 67901
(624-3841)
27 M 1902 57 OPH

Nevins, Richard L., 610 W. 11th, 67901
(624-1841)
47 M 3901 73 FP
Palmer, H. C., Jr., 2 Plaza Dr., 67901
(624-5691)
36 M 1902 63 IM
Prochazka, Otto F., Box 1067, 1105 Elm, 67901
(624-1651)
12 M 1902 38 R
Rathbun, Edwin D., 610 W. 11th, 67901
(624-1841)
36 M 1902 62 FP
Reese, Jack D., 15th E. 11th, 67901
(624-6226)
32 M 1902 57 FP
Seago, Charlotte L., 1114 N. Washington, 67901
(624-1625)
35 F 1720 60 PD
Wade, Theodore E., 1031 N. Kansas, 67901
(624-5695)
04 M 512 30 GS

LINCOLN—913
(Central Kansas Society)

Madden, William J., 115 W. Spring, 67455
(524-5154)
24 M 1902 51 FP
Songer, Herbert L., 67455
(524-4053)
12 M 1902 38 FP

LINDSBORG—913
(McPherson County Society)

Fredrickson, Duane E., 121 W. Lincoln, 67456
(227-3371)
39 M 1902 67 FP
Fuller, Deryl D., 121 W. Lincoln, 67456
(227-3371)
25 M 1902 50 FP
Murfitt, Malcolm C., 231 N. Main, 67456
(227-2732)
13 M 801 41 IM

LINWOOD—913
(Wyandotte County Society)

Funk, Edward D., Box 144 A-1, 66052
(723-3329)
04 M 1902 41 ANES

LOUISBURG—913
(Miami County Society)

Kullman, Frederick M., P.O. Box 760, 66053
(837-2600)
45 M 702 71 FP

LYNDON—913
(Franklin County Society)

Stout, Niles M., 66451
(828-4521)
16 M 1902 50 FP

LYONS—316
(Rice County Society)

Grimes, James T., 1221 West Noble, 67554
(257-5124)
27 M 1902 53 FP
Siemens, Richard A., 1221 West Noble, 67554
(257-5124)
30 M 1902 59 FP
Wolf, Curtis V., 1221 West Noble, 67554
(257-5124)
37 M 1902 64 FP

MANHATTAN—913
(Riley County Society)

Bascom, George S., 1133 College, 66502
(539-6574)
27 M 2401 52 GS
Boese, Kenneth M., 1133 College Ave., 66502
(776-4744)
25 M 1902 56 FP
Botkin, W. Michael, 215 Southwind Place, 66502
(537-4990)
44 M 3005 69 D
Brown, Robert M., Kansas State University, 66502
(532-6544)
31 M 1902 63 FP
Burdick, Bruce M., 426 Houston, 66502
(776-9411)
25 M 512 53 P
Crane, C. Herbert, 1133 College, 66502
(537-9030)
22 M 3520 46 PD
Douthit, John D., 2950 Nevada, 66502
(539-1374)
37 M 3005 62 ORS
Durkee, William R., 1133 College Ave., 66502
(776-4744)
23 M 1902 45 IM
Fairchild, John A., 1133 College, 66502
(539-4041)
14 M 3006 41 ANES
Fischer, Rex R., 1135 College, 66502
(539-5322)
34 M 3005 60 OBG
Freeman, Fred A., 1133 College, 66502
(537-8710)
42 M 1902 69 U
Heasty, Robert G., 1133 College, 66502
(539-5322)
11 M 3519 38 OBG
Hostetter, Philip H., 821 Poyntz, 66502
(537-2544)
17 M 1902 42 FP
Hunter, James S., Jr., 1133 College, 66502
(539-5501)
18 M 2301 41 OBG
Jubelt, Hilbert P., 1133 College, 66502
(537-9030)
19 M 1611 43 PD
Kaldor, Richard H., 1133 College, 66502
(539-5363)
40 M 2401 66 PATH

Kempthorne, Charles R., 519 N. 11th, 66502
(539-5211)
03 M 5605 32 OPH
Klingler, Eugene A., Jr., 1133 College, 66502
(539-5341)
35 M 1902 62 GS
Lafene, Benjamin W., 1844 Anderson Ave., 66502
(539-4014)
01 M 3806 31 OO
Lowe, Stanley W., 1133 College, 66502
(776-3451)
32 M 1902 59 OPH
McKnight, David E., 1133 College, 66502
(539-7641)
32 M 1902 57 R
McNeil, Elbert D., 1133 College, 66502
(537-9030)
22 M 702 48 PD
Marshall, Ronald L., 1133 College, 66502
(539-5322)
42 M 3005 67 OBG
Martin, Daniel C., Kansas State University, 66506
(532-6544)
30 M 1902 58 IM
Miller, Abraham H., 1133 College, 66502
(527-2651)
29 M 4101 54 IM
Mowry, Gerald L., 1133 College, 66502
(539-5322)
26 M 1902 53 OBG
Olney, Robert D., 1133 College, 66502
(539-7555)
27 M 3005 51 GS
Peterson, Jack T., 1133 College, 66502
(539-5363)
25 M 1902 50 PATH
Phillips, Stephen B., Kansas State University, 66506
(532-6544)
17 M 1902 45 IM
Reitz, Leland C., 1133 College, 66502
(539-3501)
36 M 1902 63 IM
Reitz, Roger P., 1133 College, 66502
(539-3501)
32 M 1902 59 IM
Sinclair, Robert E., Kansas State University, 66506
(532-6544)
24 M 3840 52 ADM-FP
Stein, Robert B., 1619 Poyntz, 66502
(539-1851)
29 M 3506 52 P
Stone, G. Rex, 1133 College, 66502
(539-7555)
29 M 1902 54 GS
Tiemann, William H., 1133 College, 66502
(532-6544)
42 M 3005 67 FP
Volkmann, Harley W., II, 1133 College, 66502
(539-7641)
47 M 1902 72 R
White, Thaddeus H., 1735 Anderson Ave., 66502
(539-2464)
15 M 1902 42 OO

MANKATO—913
(Republic County Society)

Kimball, Richard R., 102 S. Center, 66956
(378-3511)
45 M 1001 72 FP
Schlotterback, William E., Box 288, 66956
(378-3511)
31 M 1902 61 FP

MARION—316
(Marion County Society)

Ensey, T. Cranford, 504 S. Roosevelt, 66861
(382-2182)
20 M 4804 47 FP
Guerra, Tomas H., 122 S. Cedar, 66861
(382-2137)
33 M 84704 65 IM

MARYSVILLE—913
(Northeast Kansas Society)

Argo, Donald A., 808 N. 19th, 66508
(562-2303)
36 M 3005 64 FP
Laws, Lewis R., 808 N. 19th, 66508
(562-2303)
25 M 1902 54 FP

McLOUTH—913
(Jefferson County Society)

Snook, Robert R., 66054
(796-6116)
11 M 1902 42 FP

McPHERSON—316
(McPherson County Society)

Billings, Thomas, 400 W. 4th, 67460
(241-5500)
39 M 1902 67 FP
Brandsted, Ernest C., 400 W. 4th, 67460
(241-1654)
18 M 1606 44 OBG
Collier, William J., 400 W. 4th, 67460
(241-1766)
25 M 3605 49 GS
Dyck, Arthur H., 101½ N. Main, 67460
(241-0357)
03 M 1902 28 FP
Johnson, J. Richard, 400 W. 4th, 67460
(241-4293)
28 M 1902 55 IM
Pierson, Weir, 823 N. Main, 67460
(241-1445)
17 M 1902 44 FP
Price, Vaughan C., 120 N. Ash, 67460
(241-1224)
05 M 4706 29 FP
Sohlberg, Robert, Jr., 116 N. Ash, 67460
(241-2321)
05 M 1606 34 FP

MEADE—316
(Iroquois County Society)

Daugherty, Robert M., 631 E. Walnut, 67864
(873-2806)
09 M 1902 36 OO

Donahoe, Dorval H., P.O. Box 488, 67864
(873-2181)
32 M 5501 63 FP
Hill, Richard H., 234 E. Carthage, 67864
(873-2113)
18 M 1902 44 FP

MEDICINE LODGE—316
(Tri-County Society)

Ball, Larry D., 116 E. Kansas, 67104
(886-5653)
32 M 1902 58 FP
Hoffer, John G., 604 N. Walnut, 67104
(886-3222)
13 M 1902 44 GS
Stucky, Dean E., 116 E. Kansas, 67104
(886-5653)
33 M 1902 60 FP

MERRIAM (See Shawnee Mission)

MINNEAPOLIS—913
(Saline County Society)

Wedel, Kenneth D., 311 N. Mill, 67467
(392-2144)
32 M 1902 60 FP
Wedel, Kermit G., 311 N. Mill, 67467
(392-2144)
32 M 1902 60 FP

MINNEOLA—316
(Iroquois County Society)

Stephens, Charles G., 222 Main, 67865
(885-4202)
33 M 2803 58 FP

MISSION (*see* Shawnee Mission)

MORAN—316
(Allen County Society)

Nevitt, J. Russell, P.O. Box 430, 66755
(237-4252)
99 M 3510 32 OO

MOUNDRIDGE—316
(McPherson County Society)

Kaufman, Willard E., 115 N. Christian, 67107
(345-6322)
28 M 1902 53 FP
Loganbill, Varden J., 115 N. Christian, 67107
(345-6322)
26 M 1902 54 FP

MULVANE—316
(Sedgwick County Society)

Cobb, Leslie H., 102 E. Main, 67110
(777-1441)
17 M 4804 47 FP

NASHVILLE—316
(Pratt-Kingman Society)

Waylan, Thornton L., 67112
(246-5231)
06 M 1902 35 FP

NEODESHA—316
(Southeast Kansas Society)

Brummett, Richard R., 806 Main, 66757
(325-2622)
34 M 1902 64 FP
Chronister, Bert, 806 Main, 66757
(325-2622)
38 M 1902 64 FP
Moorhead, F. Allen, 709 Main St., 66757
(325-2200)
39 M 1902 65 FP

NESS CITY—913
(Central Kansas Society)

Wiens, Peter K., 722 E. Locust, 67560
(798-3191)
24 M 1902 55 FP

NEWTON—316
(Harvey County Society)

Allen, Frances Ann, 201 S. Pine, 67114
(283-3600)
15 F 1902 43 IM
Benton, Jay S., 201 S. Pine, 67114
(283-3600)
23 M 4804 49 OBG
Campbell, Frances S., Prairie View Mental Health Center, 67114
(283-2400)
35 F 4101 61 P
Carper, Ivan H., 203 E. Broadway, 67114
(283-2800)
28 M 1902 59 GS
Carper, Owen E., 203 E. Broadway, 67114
(283-2800)
37 M 1902 64 FP
Claassen, Milton A., 201 S. Pine, 67114
(283-3600)
32 M 1902 58 ORS
Clark, Loella E., 203 E. Broadway, 67114
(283-2800)
42 F 512 73 FP
Enns, Eugene K., 6 Indian Lane, 67114
(283-0974)
15 M 1902 40 OO
Enns, James H., 900 N. Poplar, 67114
(283-1400)
24 M 1902 47 OPH
Fent, Lee S., 316 Oak, 67114
(283-0505)
14 M 2834 43 GS
Fransen, Herbert, 209 S. Pine, 67114
(283-5040)
32 M 6501 60 GS
Fransen, Paul H., 209 S. Pine, 67114
(283-5040)
46 M 6501 71 FP
Glover, Richard M., 203 E. Broadway, 67114
(283-2800)
21 M 1902 53 FP
Griswold, Dale G., 203 E. Broadway, 67114
(283-2800)
27 M 1902 53 IM

Grove, John A., 203 E. Broadway, 67114
(283-2800)
08 M 1606 37 ORS
Grove, John L., 407 W. 16th, 67114
(283-0625)
80 M 1611 06 OO
Grove, William E., 203 E. Broadway, 67114
(283-2800)
14 M 1606 40 GS
Hawkey, Alfred S., 203 E. Broadway, 67114
(283-0678)
03 M 1902 29 OO
Hill, Phillip K., 201 S. Pine, 67114
(283-3600)
29 M 1803 56 CD
Hwa, Eugene C., P.O. Box 364, 67114
(283-1160)
21 M 24216 47 R
Isaac, Charles A., 203 E. Broadway, 67114
(283-2800)
25 M 1902 49 U
Klassen, Daniel S., 316 Oak, 67114
(283-1313)
13 M 1902 42 OBG
Kliewer, Vernon L., Prairie View Mental Health Center, 67114
(283-2400)
31 M 1606 57 P
Myers, Robert W., Rt. 1, 67114
(283-0818)
11 M 1902 43 OO
Nachtigall, Andrew, 201 S. Pine, 67114
(283-3600)
28 M 1902 59 PD
Olson, Erwin T., 201 S. Pine, 67114
(283-3600)
19 M 1902 47 PD
O'Toole, James K., 601 Santa Fe, 67114
(283-2400)
28 M 1643 54 P
Pedraza, Hernando V., 4 Sycamore St., 67114
(264-1381)
28 M 26404 56 R
Preheim, Delbert V., 209 S. Pine, 67114
(283-5040)
13 M 702 42 IM
Qamar, Yusuf, 203 E. Broadway, 67114
(283-2800)
38 M 70409 62 IM
Rich, Eldon S., 201 S. Pine, 67114
(283-3600)
16 M 1902 46 GYN
Sills, Charles T., 203 E. Broadway, 67114
(283-2800)
09 M 1902 37 IM
Tandoc, Valentin T., Jr., 201 S. Pine, 67114
(283-3600)
39 M 74809 62 U
Tompkins, Carl O., 316 Oak, 67114
(283-1380)
22 M 1902 51 FP
Vaughan, Donna A., 201 S. Pine, 67114
(283-3600)
45 F 1902 71 IM
Vogt, Vernon W., 201 S. Pine, 67114
(283-3600)
22 M 3005 53 FP
Weber, Roy R., 209 S. Pine, 67114
(283-5040)
46 M 1902 73 IM
Wiens, J. Wendell, 201 S. Pine, 67114
(283-3600)
32 M 1902 59 GS
Yoder, Vernon E., Prairie View Mental Health Center, 67114
(283-2400)
31 M 4802 61 P

NORTON—913
(Northwest Kansas Society)

Colip, F. Merlynn, 711 N. Norton, 67654
(927-3305)
35 M 1902 61 FP
Cooper, Arthur E., 305 W. Wilberforce, 67654
(927-2126)
08 M 1611 34 OO
Hartley, Roy W., 711 N. Norton, 67654
(927-3305)
37 M 1902 63 FP
Hartman, Roger L., 711 N. Norton, 67654
(927-3305)
35 M 1902 61 FP
Long, Robert C., 711 N. Norton, 67654
(927-3305)
27 M 1902 53 GS

NORTONVILLE—913
(Jefferson County Society)

Madison, Willard A., 66060
(886-2110)
20 M 1902 51 FP

OAKLEY—913
(Northwest Kansas Society)

Ohmart, Richard V., Box 756, 67748
(672-3262)
36 M 1902 62 FP
Sekavec, Gordon B., 209 Center, 67748
(672-3351)
07 M 1902 38 FP

OBERLIN—913
(Northwest Kansas Society)

Palmer, Marguerite L., 504 N. Penn, 67749
(475-2221)
25 F 5404 54 FP
Whitaker, Ren R., 504 N. Penn, 67749
(475-2222)
37 M 5404 66 FP

OLATHE—913
(Johnson County Society)

Aronoff, Michael E., 105 Patron's Plaza Bldg., 66061
(782-3953)
39 M 1604 64 OTO

Beebe, Edmer, 420 E. Cedar, 66061
(782-0443)
03 M 5605 32 OO
Bliss, Joy V., 1715 Penrose, 66061
(782-2054)
42 F 3005 68 ANES
Brown, Paul W., 405 Clairborne, 66061
(782-3322)
44 M 1902 70 FP
Chenoweth, John R., D.O., 401 Clairborne, 66061
(782-2442)
36 M 2840 70 OST
Curran, Donald J., D.O., 539 E. Santa Fe, 66061
(782-2100)
44 M 2840 70 P
Delphia, Robert E., 401 Clairborne Dr., 66061
(782-1610)
24 M 1902 56 FP
Eidt, David W., 407 Clairborne, 66061
(782-8487)
44 M 2501 70 FP
Eidt, Laurence A., 407 Clairborne, 66061
(782-8487)
44 M 1902 71 FP
Fortune, Cedric B., 405 Clairborne, 66061
(782-3322)
40 M 1902 66 FP
Glazzard, Charles D., 407 Clairborne, 66061
(782-3384)
28 M 2507 56 P
Halvorson, Howard C., 407 Clairborne, 66061
(782-2020)
41 M 5404 66 U
Laird, Dale D., One Patrons Plaza, 66061
(782-3631)
42 M 1902 68 OPH
Matthew, William L., 405 Clairborne, 66061
(782-3322)
29 M 1902 56 FP
McCann, William E., 540 E. Santa Fe, 66061
(782-0262)
22 M 3901 48 FP
Mee, Adrian W., 28 Holly Dr., 66061
(782-2292)
19 M 1902 54 ANES
Pierron, George J., 540 E. Santa Fe, 66061
(782-0260)
22 M 1902 47 FP
Pincomb, Arthur L., 401 Clairborne, 66061
(782-1415)
20 M 1902 51 FP
Seaman, Lauren I., 401 Clairborne, 66061
(782-1415)
07 M 6001 38 FP
Sheffer, Keith D., 407 Clairborne, 66061
(782-1148)
37 M 1720 67 ORS
Soeldner, James O., 405 Clairborne, 66061
(782-8600)
44 M 1902 70 FP
Stopple, John A., 405 Clairborne, 66061
(782-3073)
42 M 5605 69 OBG
Yeomans, Ronald N., 405 Clairborne, 66061
(782-3073)
40 M 1902 67 OBG

ONAGA—913
(Pottawatomie County Society)

Fleckenstein, Charles S., 100 W. 8th, 66521
(889-4241)
07 M 1902 36 FP
Walsh, Eugene A., 100 W. 8th, 66521
(889-4241)
18 M 3006 42 FP
Walsh, Thomas E., Onaga Clinic, 66521
(889-4241)
48 M 1902 74 FP

OSAGE CITY—913
(Flint Hills Society)

Williams, Homer J., 524 Market, 66523
(528-3211)
05 M 1902 31 FP

OSAWATOMIE—913
(Miami County Society)

Appenfeller, William O., 524 Brown, 66064
(755-3166)
25 M 1902 53 FP
Keil, James E., Osawatomie State Hosp., 66064
(755-3151)
44 M 1902 70 P
Quinones, Eladio A., Osawatomie State Hosp., 66064
(755-3151)
16 M 27501 43 FP

OSBORNE—913
(Central Kansas Society)

Cornely, John F., 431 W. New Hampshire, 67473
(346-5493)
20 M 4113 50 GS

OSWEGO—316
(Labette County Society)

Burgess, Arthur P., 504 5th St., 67356
(795-4427)
19 M 1902 52 FP

OTTAWA—913
(Franklin County Society)

Gollier, Robert A., 312 E. 11th, 66067
(242-2393)
13 M 1902 37 OO
Gollier, Robert A., II, 1320 S. Ash, 66067
(242-1620)
40 M 1902 66 FP
Hadley, Delmont C., 1320 S. Ash, 66067
(242-3891)
35 M 1902 64 FP
Henning, Calvin W., 1502 Cedar, 66067
(242-2641)
05 M 1902 35 FP
Laury, David G., 1320 S. Ash, 66067
(242-1620)
17 M 1606 44 FP

Lofgreen, Victor, 203 W. 3rd, 66067
(242-2126)
97 M 1902 32 FP
Philgreen, Donald E., 1320 S. Ash, 66067
(242-3891)
39 M 1602 67 FP
Reyes, Francisco A., Jr., 1320 S. Ash, 66067
(242-5312)
38 M 74801 61 GS
Speer, Louis N., 109 W. 4th, 66067
(242-1257)
14 M 1606 41 FP
Strehlow, Chester H., 1320 S. Ash, 66067
(242-3891)
30 M 1902 57 FP
Sutton, Robert E., 1320 S. Ash, 66067
(242-1620)
46 M 1902 72 FP

OVERBROOK—913
(Shawnee County Society)

Ruble, James L., Jr., 66524
(665-2205)
26 M 1902 53 FP

OVERLAND PARK (*see* Shawnee Mission)

PAOLA—913
(Miami County Society)

Banks, Robert E., 110 S. Agate, 66071
(294-2305)
29 M 1902 55 FP
Rowlett, Jack G., 2 Holly Lane, 66071
(294-2356)
21 M 1902 52 FP
Stanley, Rex C., 2 Holly Lane, 66071
(294-2356)
24 M 1902 52 GS

PARSONS—316
(Labette County Society)

Aves, Renato B., 1509 Main, 67357
(421-0600)
35 M 74801 59 GS
Bair, Howard V., Parsons State Hosp., 67357
(421-6550)
18 M 1902 43 P
Borklund, Maurice K., 400 Katy St., 67357
(421-2700)
21 M 1720 50 GS
Cramer, Guy W., 412 Murdock Dr., 67357
(421-1722)
11 M 1902 39 OO
DeBriere, Sidney L., Box 738, 67357
(421-6550)
19 M 702 52 PD
Henderson, Charles F., 1509 Main, 67357
(421-0600)
14 M 1902 40 FP
Hermann, Charles G., 303 Crestview, 67357
(421-4880)
24 M 3005 47 PATH
Jiongco-Aves, Agnes M., 1509 Main, 67357
(421-0600)
38 F 74801 59 IM
Lavaveshkul, Chirund, 1721 Corning, 67357
(421-6210)
40 M 89102 63 GS
Liu, Chien, 1721 Corning, 67357
(421-6210)
21 M 24217 47 PD
Liujuluschan, Rit, 1721 Corning, 67357
(421-6210)
41 M 89101 68 GS
Martin, Earl A., 1516 Grand, 67357
(421-4595)
07 M 1606 35 OO
Miller, Charles H., 2819 Clark, 67357
(421-6422)
07 M 3006 32 OO
Miller, Dean M., 108 Crestview, 67357
(421-4880)
22 M 1902 48 R
Pace, John D., 45 B Plaza, 67357
(421-1010)
94 M 1902 20 FP
Paranjothi, Subramoniam P., 1715 Corning, 67357
(421-6160)
39 M 49531 64 IM
Swartz, Warren E., 400 Katy Ave., 67357
(421-2700)
25 M 1902 52 GS
Tangchupong, Chantrasiri, 310 N. 16th, 67357
(421-2460)
47 F 89102 71 PD
Tangchupong, Sarohd, 310 N. 16th, 67357
(421-2460)
43 M 89102 69 OBG
White, John P., 1509 Main, 67357
(421-0600)
17 M 1902 42 FP

PHILLIPSBURG—913
(Central Kansas Society)

Richards, Jon F., Phillips Co. Med. Clinic, 67661
(543-5211)
50 M 1902 75 FP

PITTSBURG—316
(Crawford County Society)

Armstrong, Harold J., 2309 Tucker Terr., 66762
(232-1600)
40 M 1902 68 ORS
Bena, James H., 109 E. 9th, 66762
(231-6950)
12 M 3005 36 PD
Berkey, Vernon A., 617½ N. Broadway, 66762
(231-7650)
18 M 1902 43 R
Bierlein, Kenneth J., 905 N. Locust, 66762
(231-6060)
06 M 1606 33 A

Braun, William T., 214 Elmwood Dr., 66762
(231-6821)
10 M 4706 35 OO
Coomer, Tyler E., 315 National Bank Bldg., 66762
(231-7730)
30 M 2101 59 GS
Cooper, Kent J., 2308 Tucker Terr., 66762
(232-1600)
41 M 1902 73 FP
Erickson, Clarence W., 217 Natl. Bank Bldg., 66762
(231-7400)
06 M 1902 33 IM
Esch, John G., 207 Kirkwood Bldg., 66762
(231-5360)
24 M 3006 48 GS
Gomez, Modesto S., 2308 Tucker Terr., 66762
(231-2490)
35 M 72601 63 PD
Gregory, Arlene, P.O. Box 457, 66762
(231-6100)
36 F 1102 66 ANES
Holsinger, Donald M., 1015 Mt. Carmel Place, 66762
(231-5900)
38 M 1902 64 IM
Huerter, David F., 2308 Tucker Terr., 66762
(231-1600)
46 M 1902 72 IM
Leffler, Paul B., 212 Natl. Bank Bldg., 66762
(231-2810)
02 M 1902 40 IM
Lyons, Dave J., 107 W. 4th, 66762
(231-5160)
07 M 2834 30 FP
McKee, Dick B., 1500 S. College, 66762
(231-0330)
96 M 1902 28 OO
Miller, Earl E., 1312 S. Broadway, 66762
(231-6410)
13 M 1902 37 EENT
Muller, Samuel B., 611 W. Quincy, 66762
(231-4331)
05 M 1902 34 OO
Neighbor, Ernest H., 2309 Tucker Ave., 66762
(232-1600)
40 M 1902 66 ORS
Newman, Clifford B., 1204 E. 7th, 66762
(231-7470)
01 M 1902 28 OO
Parsi, Manutchehr K., 2308 Tucker Terr. 66762
(231-3770)
38 M 51701 64 OBG
Pogson, George W., 1015 Mt. Carmel Place, 66762
(231-5900)
24 M 1902 47 IM
Ramirez, Augusto, 2308 Tucker Terr., 66762
(231-1600)
32 M 26407 58 IM
Ramirez, Irene, 2308 Tucker Terr., 66762
(231-1600)
43 F 74801 66 PD
Schlemmer, Roger B., 1009 S. Broadway, 66762
(231-6380)
37 M 1902 68 OPH
Tweet, Frederick A., 2007 Countryside Dr., 66762
(231-6100)
39 M 1602 66 PATH
Wood, Douglas H., 413 W. Jefferson, 66762
(231-5111)
11 M 5605 36 OO
Yaghmour, Talaat E., 2308 Tucker Terr., 66762
(231-0850)
40 M 33002 64 U
Zabel, Kenneth P., 2308 Tucker Terr., 66762
(231-1650)
37 M 1902 65 IM

PLAINVILLE—913
(Central Kansas Society)

Page, Vale, 409 S. Cochran, 67663
(434-4609)
20 M 1902 51 FP
Pederson, Arnold M., 409 S. Cochran, 67663
(434-4609)
22 M 1902 51 FP

PLEASANTON—913
(Bourbon County Society)

Justus, William J., 66075
(352-6134)
29 M 1902 55 FP

PRAIRIE VILLAGE (*see* Shawnee Mission)

PRATT—316
(Pratt-Kingman Society)

Barker, Patrick N., 1219 E. First, 67124
(672-5666)
45 M 1902 71 GS
Black, Cyril V., 223 E. 4th, 67124
(672-6403)
05 M 4802 30 GS
Filley, Vernon W., 310 E. 2nd, 67124
(672-5555)
13 M 3005 43 GS
Freeman, F. Giles, 310 E. 2nd, 67124
(672-5555)
18 M 1902 44 FP
Jacks, J. Warren, 602 E. 2nd, 67124
(672-5559)
23 M 1902 48 FP
Pitman, Will D., 717 West 3rd, 67124
(672-6602)
98 M 1902 25 OO
Porter, William J., Pratt Co. Hospital, 67124
(672-6476)
26 M 1902 53 R
Thomas, R. Cullen, 1219 E. First, 67124
(672-5666)
47 M 1902 72 GS
Thorpe, Francis A., 310 E. 2nd, 67124
(672-5555)
08 M 1606 35 FP
Wolff, Frederick P., 223 E. 4th, 67124
(672-6403)
20 M 1902 44 IM

PROTECTION—316
(Iroquois County Society)

Glenn, Lyle G., Box 447, 67127
(622-4686)
12 M 1606 40 FP

QUINTER—913
(Northwest Kansas Society)

Carman, Dean R., 116 E. 4th, 67752
(754-3333)
36 M 1902 69 FP
Gunter, Carl C., 116 E. 4th, 67752
(754-3333)
20 M 1902 51 FP
Hiesterman, Herman W., 116 E. 4th, 67752
(754-3333)
23 M 1902 51 FP

RANSOM—913
(Central Kansas Society)

McLain, Kenneth, Box 247, 67572
(731-2295)
21 M 1902 46 FP

RILEY—913
(Riley County Society)

Oltman, Theodore V., Box 68, 66531
(485-2549)
00 M 1601 29 OO

RUSSELL—913
(Central Kansas Society)

Merkel, Earl D., 326 N. Main, 67665
(483-2178)
32 M 1902 57 FP
Panichabhongse, Sambhundh, 326 Main St., 67665
(483-2178)
43 M 89101 67 GS
Pettijohn, Walter J., 231 E. 15th, 67665
(483-2243)
12 M 1902 37 OO
Starkey, Jerald L., 326 N. Main, 67665
(483-2178)
30 M 1902 56 FP
Swann, Clair L., 112 W. 7th, 67665
(483-4212)
13 M 1902 39 IM
White, Fagan N., 356 West 5th, 67665
(483-2242)
11 M 702 36 OO

SABETHA—913
(Northeast Kansas Society)

Brown, Virgil E., 1018 Main, 66534
(284-2141)
06 M 1902 37 FP
Hunnicutt, Cecil C., 1018 Main, 66534
(284-2141)
04 M 512 32 GS
Jumper, Jerry L., D.O., 824 Main St., 66534
(284-3483)
42 M 2840 70 FP
Montgomery, Thomas A., 1018 Main, 66534
(284-2141)
10 M 1902 49 FP

ST. FRANCIS—913
(Northwest Kansas Society)

Cram, Ernest R., Box 625, 67756
(332-2126)
24 M 1902 52 FP
Jewell, Ross L., P.O. Box 726, 67756
(332-2832)
13 M 1902 56 FP
Stephenson, Lucille C., 67756
(332-3232)
06 F 1902 32 FP
Walz, Thomas J., 604 S. Benton, 67756
(332-3175)
94 M 1902 21 OO

ST. JOHN—316
(Stafford County Society)

Quackenbush, Robert P., 67576
(549-3471)
21 M 1611 52 FP
Scherer, Alfred L., 610 E. First, 67576
(549-3261)
32 M 1902 57 FP

ST. MARYS—913
(Pottawatomie County Society)

Brown, Fred E., 602 W. Palmer, 66536
(437-2256)
26 M 1902 55 FP

SALINA—913
(Saline County Society)

Allen, Monte L., 600 S. Santa Fe, 67401
(827-0307)
36 M 1902 61 ENT
Anderson, Jody, 737 E. Crawford, 67401
(827-7261)
32 F 1902 59 IM
Armstrong, Carroll W., 718 United Bldg., 67401
(823-2632)
08 M 3006 33 ENT
Baxter, W. Reese, 600 S. Santa Fe, 67401
(825-8221)
47 M 1902 73 FP
Brungardt, Bernard A., 400 E. Beloit, 67401
(827-5170)
21 M 3006 46 ANES
Calderwood, William A., 135 E. Claflin, 67401
(827-9631)
41 M 1902 68 FP
Coffey, Roy B., 671 Elmore Dr., 67401
(823-6397)
24 M 1902 47 ORS
Covert, Thomas J., 737 E. Crawford, 67401
(827-7261)
45 M 1902 71 PD
Cultron, Frank T., 800 E. Crawford, 67401
(823-8151)
10 M 1643 38 OPH
Dowell, James C., 645 E. Iron, 67401
(827-7255)
26 M 1611 49 IM

Draemel, H. Richard, 600 S. Santa Fe, 67401
(827-0307)
18 M 1902 53 OTO
Dreher, Henry S., 737 E. Crawford, 67401
(827-7261)
18 M 1902 43 IM
Eaton, Glen E., RFD #3, Box 94B, 67401
(827-3064)
28 M 1902 54 ANES
Eaton, Leslie F., 737 E. Crawford, 67401
(827-7261)
06 M 1902 32 GS
Feighny, Robert E., 519 S. Santa Fe, 67401
(827-4424)
20 M 1902 51 ORS
Forster, Louis G., Jr., 617 E. Elm, 67401
(825-8221)
47 M 1902 73 FP
Freeman, Raymond S., 737 E. Crawford, 67401
(827-7261)
20 M 702 50 PD
Gans, Frederick A., 737 E. Crawford, 67401
(827-7261)
22 M 2834 46 PD
Goering, Donald D., Box 176, 67401
(825-8221)
31 M 1902 56 FP
Griffing, Richard B., 1941C Glendale Rd., 67401
(825-9091)
27 M 1902 53 ANES
Gunn, Marvin R., 2142 Edgehill Rd., 67401
(827-9526)
28 M 3901 54 R
Harris, Norman R., 430 S. 7th, 67401
(825-8191)
30 M 1902 59 OBG
Hartenbower, Carey A., 617E United Bldg., 67401
(827-9526)
20 M 1902 51 R
Hatton, Lloyd W., 406 United Bldg., 67401
(827-6256)
06 M 1902 33 P
Hodges, Merle A., 430 S. 7th, 67401
(825-8191)
34 M 1902 58 OBG
Holman, Jon B., 600 S. Santa Fe, 67401
(827-9366)
33 M 1902 63 P
Jackson, Delmas A., Jr., 645 E. Iron, 67401
(827-7255)
35 M 2101 60 IM
Jenkins, Neal M., 135 E. Claflin, 67401
(827-9631)
19 M 1902 49 IM
Lake, Max S., 600 S. Santa Fe, 67401
(827-0307)
19 M 3005 43 OPH
Lasley, David A., 645 E. Iron, 67401
(827-9635)
22 M 1606 47 U
Lungstrum, Jack E., 645 E. Iron, 67401
(823-2215)
21 M 1902 59 ORS
Macy, Norman E., 1917 Ridgeview, 67401
(827-4053)
35 M 1902 60 PATH
Macy, Ted L., 737 E. Crawford, 67401
(827-7261)
43 M 1902 71 GS
Marchbanks, Donald L., 1911-E Glendale Rd., 67401
(823-2380)
24 M 1902 51 FP
Martin, Oliver L., 135 E. Claflin, 67401
(827-9631)
08 M 1902 37 OBG
Mathis, Jerry L., 1112 Albert, 67401
(827-9343)
35 M 1902 62 PDA
Maxwell, Gordon E., 135 E. Claflin, 67401
(827-9631)
29 M 1902 55 OBG
McCrae, Spencer C., 519 S. Santa Fe, 67401
(827-4424)
18 M 3509 43 ORS
Miller, Elden V., 1928 Ridgelea Dr., 67401
(823-3242)
19 M 1902 44 ANES
Mitchell, John C., 617 United Bldg., 67401
(827-3061)
13 M 1902 38 GS
Mowery, William E., 737 E. Crawford, 67401
(827-7261)
23 M 1902 47 GS
Nickell, Wendell K., 617 United Bldg., 67401
(827-9618)
26 M 1606 50 TS
Null, William G., 135 E. Claflin, 67401
(827-9631)
31 M 102 57 PD
Obando, Guillermo, 2110 Knollcrest Dr., 67401
(833-6219)
35 M 26404 62 R
Palmer, Gerald K., P.O. Box 1285, 67401
(827-4053)
24 M 1803 53 PATH
Rassa, Reza P., P.O. Box 1608, 67401
(827-4411)
33 M 51701 59 R
Reece, Richard J., 617 D United Bldg., 67401
(827-9526)
23 M 1902 49 R
Roderick, James E., 645 E. Iron, 67401
(827-9635)
23 M 1902 47 U
Romeiser, Rex S., 645 E. Iron, 67401
(827-9635)
41 M 1902 67 U
Rueb, Andrew E., 11 Cresview Dr., 67401
(823-3510)
11 M 1606 35 GS
Schwartz, John H., 617 E. Elm, 67401
(825-8221)
44 M 1902 70 FP
Scott, Chester E., 519 S. Santa Fe, 67401
(827-5549)
23 M 1902 51 FP

Sebree, Steven G., 737 Crawford, 67401
(827-7261)
47 M 1902 73 OBG
Simpson, J. Colbert, 308 W. South, 67401
(825-5789)
07 M 3006 38 OO
Sloo, Milo G., 645 E. Iron, 67401
(823-2215)
41 M 1902 67 ORS
Smith, Harold R., 737 E. Crawford, 67401
(827-7261)
19 M 1902 51 FP
Taylor, Thomas F., 430 S. Ohio, 67401
(827-0346)
26 M 1902 53 FP
Wagenblast, Howard R., 737 E. Crawford, 67401
(827-7261)
21 M 1902 49 FP
Waters, Clarence N., 530 S. Fifth, 67401
(823-6497)
13 M 2834 48 D
Weber, Clarence J., 156 Overhill, 67401
(823-6182)
00 M 1902 39 OO
Weber, Robert W., 645 E. Iron, 67401
(827-7255)
26 M 1902 49 IM

SCOTT CITY—316
(Southwest Kansas Society)

Fields, Galen W., 202 College, 67871
(872-2187)
15 M 1902 49 FP
Hopkins, B. Morris, 804 Crescent Dr., 67871
(872-2187)
23 M 1902 53 FP

SEDAN—316
(Southeast Kansas Society)

Taylor, Elmer W., P.O. Box 8, 67361
(725-3141)
28 M 512 57 FP
Walker, William K., 111 E. Cherokee, 67361
(725-3171)
18 M 1902 45 FP

SENECA—913
(Northeast Kansas Society)

Berkley, Norman W., 15 S. 5th, 66538
(336-2128)
31 M 1902 63 FP
Gilbert, J. Howard, 522 Main, 66538
(336-2414)
05 M 1902 41 FP

SHARON SPRINGS—913
(Northwest Kansas Society)

Chung, John J., Wallace Co. Med. Clinic, 67758
(852-4214)
23 M 58301 48 FP

SHAWNEE MISSION (Mission, Leawood, Lenexa, Prairie Village, Overland Park)—913
(Johnson County Society)

Abrams, William W., 10754 Glenwood, 66211
(341-1123)
06 M 1902 32 OO
Allen, Lewis G., 7301 Mission Rd., 66208
(362-2222)
21 M 1902 45 R
Allen, Timothy E., 6742 Fontana, 66208
(334-2674)
49 M 1902 76 (Res)
Altenbernd, Elvin C., 7319 W. 81st, 66204
(648-2010)
26 M 1902 54 FP
Alvarez, Luis A., 8100 Marty, 66204
(649-3400)
32 M 64914 61 FP
Arenal, Angela C., 7251 Eby Dr., 66204
(362-6389)
38 F 35204 60 ANES
Armbruster, Albert A., 9119 W. 74th St., 66204
(362-9220)
17 M 512 55 GS
Athon, Merrill D., 6806 W. 83rd, 66204
(642-4242)
24 M 1902 54 FP
Baeke, John O., 6806 W. 83rd, 66204
(642-4242)
19 M 1902 52 FP
Balanoff, Arnold Z., 4601 W. 109th, 66211
(642-4040)
42 M 1803 67 PD
Bansal, Satish C., 6100 Martway, 66102
(384-2220)
38 M 49541 61 ORS
Barag, Perry, 4601 W. 109th, 66211
(341-7001)
42 M 3841 69 IM
Barker, Elizabeth B., 4121 W. 83rd, 66208
(381-6669)
30 F 4706 55 P
Barker, James B., 8686 W. 96th, 66212
(381-3338)
31 M 4706 55 OTO
Barnhart, Ronald J., 9119 W. 74th, 66204
(831-2334)
41 M 2501 68 OBG
Barr, Richard N., 7301 Mission Rd., 66208
(432-4366)
32 M 1902 57 OPH
Barrick, Bruce, Shawnee Mission Med. Center, 66201
(676-2340)
39 M 1902 65 PATH
Batty, Thomas V., 5555 W. 58th, 66202
(432-2080)
21 M 3806 54 FP
Bell, Deloris J., 4601 W. 109th, 66211
(341-6550)
42 F 1902 68 OPH
Belzer, Edward G., 4601 W. 109th, 66211
(381-8282)
36 M 3005 58 PD

Billingsley, Thad H., 5555 W. 58th, 66202
(432-2080)
41 M 1902 66 P
Bishop, Francis E., 7501 Mission Rd., 66208
(648-3533)
20 M 1902 45 P
Bletz, Donald B., 6100 Martway, 66202
(362-7290)
28 M 5104 58 N
Boles, J. Michael, 5949 Nieman Rd., 66203
(631-1300)
35 M 1902 61 FP
Bridgens, James G., Shawnee Mission Med. Center, 66201
(676-2340)
22 M 1902 47 PATH
Brown, William R., 7301 Mission Rd., 66208
(236-8866)
23 M 1902 48 IM
Burger, Paul B., 5638 Nieman Rd., 66203
(631-6114)
25 M 2834 50 FP
Cain, Ivan W., 7301 Mission Rd., 66208
(362-7811)
18 M 1902 44 ORS
Calderon, Jaime, 7301 Mission Rd., 66208
(362-8566)
39 M 26401 66 IM
Calkins, Larry L., 5100 West 95th, 66207
(649-0110)
18 M 1902 43 OPH
Carduff, Jay J., 6300 Glenwood, 66202
(432-4480)
25 M 3006 54 FP
Carrasco, Lenore C., 5811 Outlook, 66202
(432-0625)
41 F 74801 63 A
Cavitt, Robert F., 9119 W. 74th, 66204
(831-0700)
24 M 1902 48 GS
Chang, Shu-Fang, 10200 W. 75th, 66204
(432-7885)
25 F 24239 49 P
Coe, Richard O., 7301 Mission Rd., 66208
(362-8505)
31 M 4804 56 OPH
Cohen, Robert A., 3700 W. 83rd, 66208
(642-2100)
39 M 2803 64 PD
Cohn, Steven G., 7907 W. 99th St., 66212
(648-7907)
41 M 1902 67 ANES
Cooper, Jack R., 7301 Mission Rd., 66208
(432-6300)
17 M 3840 43 NS
Corbin, Murray D., 6100 Martway, 66202
(362-7290)
39 M 1902 65 CD
Cordell, Larry D., 7301 Mission Rd., 66208
(362-8317)
41 M 1902 67 ORS
Coulter, Henry F., 5829 Woodson Rd., 66202
(722-1100)
23 M 1902 51 FP
Cox, Ira, Jr., 5829 Woodson, 66202
(722-1100)
19 M 1902 49 FP
Curran, Kevin E., 4121 W. 83rd, 66208
(649-9383)
39 M 2803 65 OPH
Darr, Richard B., 74th & Grandview, 66201
(676-2214)
42 M 3401 70 IM
Davis, Richard E., 10955 Granada Lane, 66207
(648-5303)
26 M 1902 54 P
DeMott, Wayne R., 4914 Belinder, 66205
(621-5335)
34 M 4002 59 PATH
Denison, Terry R., 5829 Woodson Rd., 66202
(722-1106)
29 M 1902 56 PD
Derrington, Kenneth L., 4601 W. 109th, 66211
(341-3535)
44 M 1902 71 FP
Dockhorn, Robert J., 7501 Mission Rd., 66208
(381-4674)
34 M 1902 60 PDA
Doherty, William R., 7600 State Line, 66208
(649-3900)
20 M 3006 56 FP
Duckett, Thomas G., II, 4601 W. 109th, 66211
(648-1022)
41 M 1902 67 OPH
Enders, Wray, 9034 Cottonwood Dr., #2, 66215
(492-9353)
02 M 1902 36 OO
Esrig, Harold L., D.O., 8132 Sagamore, 66206
(381-5033)
30 M 2840 60 ANES
Etzenhouser, Russell D., 4601 W. 109th, 66211
(381-8282)
34 M 1902 59 PD
Evans, William E., Jr., 7301 Mission Rd., 66208
(362-7363)
24 M 1902 58 FP
Felt, Samuel D., 10802 W. 75th Terr., 66214
(588-7100)
46 M 1902 72 PATH (Res)
Fixley, Mark S., 5340 W. 101st Terr., 66207
(383-1835)
45 M 1902 72 IM
Fretz, William D., 6100 Martway, 66202
(362-7290)
47 M 1902 73 FP
Fullen, Jeryl G., 10000 W. 75th, 66204
(831-3500)
43 M 401 68 ORS
Garcia, Francisco M., 9409 W. 82nd, 66204
(649-7067)
32 M 27501 60 FP
Gardner, Glenn M., 5200 W. 64th, 66208
(432-1928)
35 M 2803 60 IM

Gentry, Kale C., 6806 W. 83rd, 66204
(642-4242)
31 M 1902 60 FP
Gilbert, Roberta M., 4121 W. 83rd, 66208
(341-1234)
35 F 3506 62 P
Gillen, Billy A., 8802 Birch Lane, 66207
(381-0521)
29 M 1902 54 ANES
Gollerkeri, Mohan P., 7301 Mission Rd., 66208
(236-8866)
30 M 49516 52 HEM
Gomez, Francisco, 4000 Somerset Dr., 66208
(649-7300)
15 M 26401 43 P
Good, Wendell L., 4601 W. 109th, 66211
(649-3883)
24 M 1902 48 FP
Grady, Kenneth L., 4121 W. 83rd, 66208
(649-5566)
36 M 1902 69 P
Greenberg, M. Taylor, 7301 Mission Rd., 66208
(362-1918)
42 M 5104 67 IM
Hamtil, Lawrence W., 3700 W. 83rd, 66208
(649-6722)
36 M 2803 61 OPH
Hard, Benjamin F., 7301 Mission Rd., 66208
(362-2340)
28 M 4802 55 OBG
Harms, Albert C., 5750 W. 95th, 66207
(381-5550)
13 M 1902 38 FP
Harned, Bert W., Shawnee Mission Med. Center, 66201
(676-2479)
24 M 1606 47 ANES
Harpster, Gene O., 4601 W. 109th, 66211
(648-1400)
31 M 1902 57 GS
Hastings, Mary T., 2520 West 50 Pl., 66205
(722-1658)
45 F Medical Student
Herzon, Charles D., 8951 W. 75th, 66204
(649-9010)
39 M 3006 65 OBG
Hesser, Herbert H., 7207 Edgewood Blvd., 66203
(631-3121)
06 M 1902 34 OO
Higgins, Ronald A., 6100 Martway, 66202
(362-7290)
37 M 2803 65 D
Hirsch, Martin S., 5611 W. 92 Terr., 66207
(341-1469)
44 M 1902 71 P (Res)
Hobson, Milburn W., 9119 W. 74th, 66204
(831-2334)
30 M 1902 55 OBG
Hodges, Bruce P., 12345 W. 95th, 66215
(888-0777)
32 M 1902 63 FP

Hoffman, Jerry W., 4210 Johnson Dr., 66205
(362-4080)
45 M 1902 71 P
Hopkins, Lenly T., Jr., 8600 W. 95th, 66212
(649-7844)
30 M 3841 56 GS
Hopkins, William O., 10000 W. 75th, 66204
(831-3500)
33 M 2803 61 ORS
Horseman, Robert F., 9119 W. 74th, 66204
(432-7419)
19 M 1902 44 OBG
Iturralde, George, 7501 Mission Rd., 66208
(648-4949)
21 M 13201 49 P
Janes, Donald R., 4601 W. 109th, 66211
(381-6144)
34 M 1902 60 OBG
Johler, Terry H., 6100 Martway, 66202
(362-7290)
40 M 2802 67 FP
Jones, Charles E., 74th & Grandview, 66201
(676-2214)
31 M 1902 60 FP
Jones, H. Ivor, 4000 Somerset Dr., 66208
(381-1331)
24 M 80303 51 P
Jorg, Helen H., 74th and Grandview, 66201
(676-2479)
21 F 2802 53 ANES
Jouvenat, Neil C., 11055 Cedar, 66211
(341-6030)
43 M 3005 71 OBG
Kagan, Stuart M., 7301 Mission Rd., 66208
(362-6000)
44 M 4901 69 PD
Kennedy, Kenneth R., 6100 Martway, 66202
(432-0126)
24 M 1902 53 FP
Khurana, Satish K., 9119 W. 74th, 66204
(432-3334)
41 M 49536 65 PD
Kimura, Charles C., 5811 Outlook, 66202
(432-0625)
25 M 2101 56 A
Kodanaz, A. Aytekin, 5710 Reinhardt Dr., 66205
(334-2500)
28 M 90201 55 ANES
Kozikowski, Ben M., 7301 Mission Rd., 66208
(362-8317)
30 M 2834 55 ORS
Krueger, Alan L., 9654 W. 86th, 66212
(831-6412)
41 M 1902 67 P
Kubin, Doris, 2504 W. 71st, 66208
(371-4343)
15 F 1902 43 R
Kurth, Robert H., 5555 W. 58th St., 66202
(432-2080)
28 M 3005 53 IM
Lambright, Robert L., 2108 West 75th, 66208
(262-6380)
26 M 4705 50 P

Lapi, Ruth, 2012 Stratford Rd., 66208
(362-4127)
14 F 4107 37 OO
Lee, Jae M., 6300 Glenwood, 66202
(677-3555)
40 M 58302 65 GS
Legaspi, Pedro L., Jr., 8305 Wenonga, 66206
(649-5769)
36 M 74801 60 ANES
Leigh, Lawrence E., 8020 Santa Fe Dr., 66204
(642-4080)
12 M 1902 41 FP
Lewin, Walter, 4000 Somerset Dr., 66208
(381-1331)
30 M 1902 56 P
Lewis, James E., 3700 W. 83rd, 66208
(649-0923)
37 M 2101 63 P
Lipsey, James H., 10000 W. 75th, 66204
(831-3500)
31 M 1606 56 ORS
Lotito, Carlos A., 7301 Mission Rd., 66208
(362-8566)
29 M 13201 56 IM
Lulo, Antonio R., 7600 State Line, 66208
(649-3900)
35 M 30801 60 IM
Mallory, John A., 6100 Martway, 66202
(362-7290)
43 M 2803 71 IM
Manley, Joseph W., 4601 W. 109th, 66211
(381-8838)
42 M 1902 69 OBG
Maser, George R., 5808 Nall, 66202
(432-5515)
12 M 1902 36 FP
Mathews, Robert M., 7301 Mission Rd., 66208
(362-6888)
25 M 1902 54 GS
Maxwell, Robert A., 9119 W. 74th, 66204
(384-5500)
46 M 1902 73 PD
McCaughey, Hugh W., 11055 Cedar, 66211
(381-1724)
28 M 1902 53 IM
McCusker, Kevin T., 2200 W. 72nd, 66208
(677-2759)
51 M 1902 76 IM (Res)
McEachen, William H., 3700 W. 83rd, 66208
(649-3335)
32 M 1902 59 PD
McGurk, Thomas E., 4601 W. 109th, 66211
(649-2080)
39 M 2803 65 P
McWherter, Lottie B., 5920 Nall, 66202
(362-1464)
30 F 1902 57 IE
Melendres, Juanito M., 8971 W. 75th, 66204
(341-2000)
36 M 74809 61 PD

Melia, B. James, Jr., 3700 W. 83rd, 66208
(648-4117)
33 M 2803 60 D
Menendez, Jose O., 8100 Marty, 66204
(649-3400)
25 M 27501 54 P
Menez, Cesar V., 4121 W. 83rd, 66208
(381-4513)
36 M 74810 56 P
Mercer, James B., 13109 W. 95th, 66215
(888-5442)
21 M 1902 51 FP
Morcos, Abdelmalak E., 74th & Grandview, 66201
(676-2479)
33 M 33004 61 ANES
Muehlberger, James J., 4601 W. 109th, 66211
(383-3222)
34 M 3006 60 PD
Mueller, J. Kent, 3700 W. 83rd, 66208
(649-0923)
35 M 1902 62 P
Nash, Robert A., 4601 W. 109th, 66211
(649-8686)
31 M 1902 55 P
Nieman, John L., 4601 W. 109th, 66211
(381-8282)
28 M 3806 58 PD
Nosti, Juan C., 7301 Mission Rd., 66208
(262-5014)
38 M 13204 63 PS
Nunez, Julian, 10021 Mastin, 66212
(642-5000)
30 M 27501 60 FP
O'Bryan, James J., 3800 W. 83rd, 66208
(649-9500)
47 M 1902 73 PD
O'Connell, Frank A., 7830 State Line, 66208
(381-0886)
25 M 1902 51 FP
O'Dell, Michael L., 9256 Conser 1A, 66212
(341-6376)
51 M Med. Student
Oktawiec, Danuta, 5848 Fontana Dr., 66205
(236-6261)
22 F 80303 50 ANES
Osgood, George M., 3700 W. 83rd, 66208
(381-5200)
14 M 1902 44 IM
Pashino, Antonio, 6218 Robinson, 66202
(236-4983)
22 M 13201 60 P
Patterson, John R., 5317 Chadwick Rd., 66205
(262-1049)
20 M 1902 48 PD
Pearce, Eugene W. J., 9119 W. 74th, 66204
(831-2334)
24 M 2802 49 OBG
Pearce, Lunetta A. M., 9119 W. 74th, 66204
(362-1525)
26 F 3005 49 FP
Pentecost, Richard L., 8900 State Line, 66206
(383-1410)
32 M 1001 56 P

Petersen, A. Gene, 3700 W. 83rd, 66208
(648-3911)
27 M 1902 54 IM
Petersen, Gerald D., 3700 W. 83rd, 66208
(648-3911)
30 M 1902 60 IM
Petrie, Samuel C., 6100 Martway, 66202
(722-1166)
27 M 1902 58 IM
Pettegrew, Pauline K., 4601 W. 109th, 66211
(381-6765)
21 F 3006 50 FP
Pfuetze, Karl D., 6100 Martway, 66202
(362-7290)
40 M 1902 66 CD
Phillips, Warren G., 3700 W. 83rd, 66208
(649-0923)
26 M 1902 60 P
Pitts, Ronald L., 7301 Mission Rd., 66208
(362-2524)
35 M 2002 62 D
Powell, Carol W., 8216 Cherokee Circle, 66206
(381-3785)
25 F 1902 51 P
Pronko, Michael J., 4121 W. 83rd, 66208
(648-7878)
34 M 1902 60 P
Reddy, Narayan C., 7301 Mission Rd., 66208
(384-2285)
45 M 49521 68 IM
Reivich, Ronald S., 10955 Granada Lane, 66211
(383-3050)
34 M 3806 60 P
Rieke, Frank A., 10411 W. 55th St., 66203
(432-1208)
16 M 1902 41 GS
Robles, Luis H., 7301 Mission Rd., 66208
(362-8566)
41 M 73701 68 IM
Rodriguez, Raul G., 9812 Melrose, 66214
(888-4389)
42 M 26401 68 P
Rohr, Joseph H., 6100 Martway, 66202
(262-6606)
13 M 1902 42 A
Rosenberg, Stanton L., 1900 W. 75th, 66208
(362-8080)
30 M 1902 55 P
Rubin, Herbert M., 7301 Mission Rd., 66208
(362-6000)
37 M 2803 63 PD
Rumold, Mervin J., 6340 Indian Lane, 66208
(362-7010)
03 M 1902 30 GS
Saffo, Karl S., 10200 W. 75th, 66204
(362-9585)
39 M 52801 62 PS
Sathyanarayana, Saraswathi, 9119 W. 74th, 66204
(432-7419)
45 F 49509 67 OBG
Sawkar, Laxmidas A., 7301 Mission Rd., 66208
(384-4844)
36 M 49523 63 IM
Schaefer, Joseph P., 7301 Mission Rd., 66208
(362-2975)
34 M 1902 60 IM
Schaffer, Richard A., 6300 Glenwood, 66202
(384-4998)
42 M 1902 72 FP
Schwegler, Raymond A., 6100 Martway, 66202
(362-7290)
37 M 1902 63 CD
Shaad, Dorothy J., 2322 W. 51st, 66205
(236-5033)
09 F 1902 44 OO
Shofstall, William H., 6100 Martway, 66202
(722-4747)
11 M 3901 41 EENT
Smith, Dale C., 4601 W. 109th St., 66211
(381-0353)
20 M 1902 45 OPH
Smith, Donald J., 8600 W. 95th, 66212
(642-4515)
18 M 1902 49 FP
Snodell, Firmin E., 5555 W. 58th, 66202
(432-2080)
31 M 1902 61 IM
Speer, Frederic, 5811 Outlook, 66202
(432-0625)
09 M 1902 34 A
Steiner, Robert M., 5311 W. 96th Terr., 66207
(753-4011)
39 M 4112 65 R
Steinzeig, Alfred S., 6500 Hodge Dr., 66208
(432-2233)
13 M 1902 37 OO
Stevenson, E. Kent, 4121 W. 83rd, 66208
(649-5566)
45 M 2803 67 CHP
Sugar, Robert L., 4601 W. 109th, 66211
(341-4343)
40 M 3508 66 OBG
Sullivan, Henry B., 5817 Nieman Rd., 66203
(631-6160)
24 M 1902 52 FP
Summerville, Ward W., 2120 W. 49th, 66205
(722-2341)
97 M 1902 27 PATH
Sutton, Richard L., Jr., 3203 W. 83rd Terr., 66206
(383-1894)
08 M 2501 29 OO
Tetzlaff, Archibald O., 6525 Granada Dr., 66208
(621-5335)
26 M 40721 52 ANES
Thomas, Thomas V., 6315 Wenonga Rd., 66208
(321-0145)
37 M 49549 61 TS
Tice, Galen M., 14019 W. 91 Terr., 66215
(492-9287)
99 M 1902 29 OO
Tutera, Gino, 11055 Cedar, 66211
(341-6030)
45 M 2803 71 OBG
*Vannaman, Donald D., 4601 W. 109th, 66211
(381-8282)
43 M 1902 71 PD

Villanueva, Cesar L., 6332 Ash, 66208
(384-0694)
39 M 74802 65 OBG
Wang, Sidney W., 9119 W. 74th, 66204
(722-2020)
32 M 38503 58 FP
Weare, Mary E., 4650 W. 90th Terr., 66207
(649-2727)
48 F 4002 73 P
Weaver, Jerome A., 8600 W. 95th, 66212
(341-4030)
15 M 5404 39 PD
Webb, James R., 5949 Nieman Rd., 66203
(631-0900)
34 M 1902 61 FP
Whitehead, Richard E., 7301 Mission Rd., 66208
(362-8317)
31 M 2501 58 ORS
Whitley, Douglas M., 4601 W. 109th, 66211
(341-4770)
34 M 1902 60 D
Whittier, Frederick C., 6332 W. 67th Terr., 64201
(861-4700)
39 M 1643 65 IM
Wigginton, Gerald D., D.O., 9119 W. 74th, 66204
(384-5500)
44 M 2840 70 PD
Wiley, John H., 9119 W. 74th, 66204
(831-2334)
37 M 4113 63 OBG
Wilson, L. Barrick, 5602 Fairway Rd., 66205
(236-8423)
09 M 1902 35 ANES
Wilson, Robert B., 7301 Mission Rd., 66208
(362-3356)
10 M 1902 40 ENT
Wilson, Sloan J., 5618 W. 62nd, 66202
(432-0735)
10 M 1902 36 OO
Wurster, George R., 3700 W. 83rd, 66208
(649-0923)
35 M 1902 61 P
Ye, Richard C., 7301 Mission Rd., 66208
(362-7505)
20 M 24222 46 PS
Yohe, Ruth M., 8600 W. 95th, 66212
(383-3377)
26 F 4107 54 PDA
Young, John W., 7301 Mission Rd., 66208
(362-7505)
37 M 4706 63 PS
Zack, Ashley S., 4601 W. 109th, 66211
(642-4040)
46 M 2803 73 PD
Zaremski, Sherman C., 7301 Mission Rd., 66208
(362-8566)
33 M 1720 58 IM
Zimmerman, Daniel D., 1900 W. 47th, 66205
(831-0910)
45 M 3005 70 IM

SMITH CENTER—913
(Central Kansas Society)

Relihan, Francis H., 116 S. Main, 66967
(282-3291)
84 M 1606 07 FP
Sheppard, Robert G., 120 E. Court, 66967
(282-6654)
21 M 1902 45 GS
Woods, Hugh J., 120 E. Court, 66967
(282-6654)
26 M 1902 52 FP

SOUTH HAVEN—316
(Tri-County Society)

Ubelaker, Ernest J., 67140
(892-2261)
11 M 1902 38 FP

STAFFORD—316
(Stafford County Society)

Brown, C. Everett, 102 N. Main, 67578
(234-5251)
10 M 1902 47 FP
Ward, Robert L., 115 E. Broadway, 67578
(234-5281)
24 M 1902 52 FP

STOCKTON—913
(Central Kansas Society)

Mauck, Harold C., 623 S. 2nd, 67669
(425-6280)
20 M 1902 54 FP
Votapka, William L., 623 S. 2nd 67669
(425-6280)
24 M 1902 53 FP

SUBLETTE—316
(Southwest Kansas Society)

Thiemann, Alfred H., D.O., 301 Derby, 67877
(675-2241)
12 M 1805 42 FP

SYRACUSE—316
(Southwest Kansas Society)

Petterson, Cecil E., Box 1045, 67878
(384-5731)
14 M 1902 39 FP

TONGANOXIE—913
(Leavenworth County Society)

Stevens, Philip L., Box 319, 66086
(845-2090)
27 M 1902 54 FP

TOPEKA—913
(Shawnee County Society)

Agan, Lawrence M., 1314 Pembroke Ln., 66604
(357-4306)
20 M 5002 44 R
Alonso, Rene A., Continental Med. Bldg., #440, 66606
(357-6218)
20 M 27501 46 IM

Annamalai, P. R., 1237 E. 37th, 66605
(267-4040)
23 M 49516 55 IM

Appelbaum, Ann, 3617 W. 6th, 66606
(234-9566)
24 F 3506 50 P

Arredondo, Mario, 3817 E. Sixth, 66607
(296-7216)
25 M 26401 54 P

Ashley, B. John, Jr., 1616 W. 8th, 66606
(233-2280)
31 M 1902 56 OPH

Ashley, Byron J., 1616 W. 8th, 66606
(233-2280)
98 M 1902 24 OPH

Averill, Stuart, Menninger Foundation, Box 829, 66601
(234-9566)
24 M 502 52 P

Baehr, Ralph H., 310 Med. Arts Bldg., W, 66604
(234-3451)
35 M 1606 59 R

Bair, Glenn O., 417 E. 6th, 66607
(354-5100)
31 M 2401 57 IM

Baker, Frederick C., 115 W. Crane, 66603
(234-8621)
35 M 4113 62 PATH

Baker, Phillip L., 631 Horne, 66606
(357-0301)
37 M 3005 63 ORS

Baker, Ray D., 1615 W. 8th, 66606
(233-8961)
30 M 4812 55 GPM

Barnhill, C. Alton, Menninger Foundation, Box 829, 66601
(234-9566)
31 M 3601 56 P

Baude, André, 1815 Westwood Circle, 66604
(354-1946)
02 M 39606 27 IM

Beach, Richard R., 106 Med. Arts Bldg., W, 66604
(233-7943)
23 M 2802 48 IM

Beale, David A., Menninger Foundation, Box 829, 66601
(234-9566)
31 M 5404 56 P

Beaty, James A., 1700 W. 7th, 66606
(354-1111)
32 M 5101 66 EM

Beck, Joseph D., 1425 W. 10th, 66604
(235-2351)
18 M 3005 43 PD

Bedford, D. R., P.O. Box 1772, 66601
(272-3330)
09 M 4802 40 OO

Beelman, Floyd C., 1319 Huntoon, 66604
(235-3981)
02 M 3840 35 FP

Beller, Willis L., 310 Med. Arts Bldg., W, 66604
(234-3451)
14 M 1902 41 R

Blake, Henry S., 1933 Westwood Dr., 66604
(232-1063)
11 M 3520 37 OO

Bowen, Clovis W., 2200 W. 10th, 66604
(234-8601)
12 M 1902 37 FP

Bowen, Harry J., Jr., 2200 W. 10th, 66604
(234-8601)
11 M 1902 37 FP

*Boyd, Spencer H., 1815 W. 2nd, 66606
(354-7851)
11 M 1902 35 OBG

Braunsdorf, Robert L., 2625 Ohio, 66605
(354-7630)
08 M 2501 35 FP

Bridwell, Russell E., 1710 W. 10th, 66604
(234-2624)
26 M 1902 51 ENT

Brooker, Robert M., 314 Med. Arts Bldg., E, 66604
(235-1170)
18 M 1902 43 TS

Broucek, Francis J., 2400 W. 29th, 66611
(266-9503)
32 M 1643 58 P

Capooth, L. Wayne, 2015 W. 10th, 66604
(235-6253)
44 M 4706 70 EM

Carter, Dorothy L., Menninger Fd., Box 829, 66601
(234-9566)
37 F 4113 66 CHP

Carver, Larry A., 631 Horne, 66606
(234-8653)
37 M 1902 73 P

Cashman, Maurice R., Jr., 901 Garfield, 66606
(354-9591)
35 M 1902 61 IM

Cavanaugh, John W., 1710 W. 10th, 66604
(235-3488)
13 M 1803 39 GS

Chamberlin, Cecil R., Menninger Foundation, Box 829, 66601
(234-9566)
30 M 3901 55 CHP

Chen, Tak-Ming, 303 Med. Arts Bldg., 66604
(235-3451)
41 M 24402 68 ANES

Cherry, Arthur C., 918 W. 10th, 66604
(233-9681)
27 M 3806 53 PD

Cheung, Philip W. H., 918 W. 10th, 66604
(233-9681)
36 M 24338 58 R

Choy, James K. L., 918 W. 10th, 66604
(233-9681)
10 M 1643 37 U

Clark, Craig N., 3124 E. 6th, 66607
(234-5571)
29 M 1902 58 FP

Clark, Shirley E., 911 N. Kansas, 66608
(234-6455)
14 M 1902 42 FP

Cochran, Paul W., Menninger Fd., Box 829, 66601
(234-9566)
33 M 4802 58 IM

Cohen, Louis, 918 W. 10th, 66604
(233-9681)
14 M 1902 41 IM

Cohen, Sidney, 417 E. 6th, 66607
(354-5100)
31 M 3841 57 CD

Cokeley, John M., V.A. Hosp., 66622
(272-3111)
30 M 5104 55 P

Collins, Dean T., Menninger Foundation, Box 829, 66601
(234-9566)
28 M 1902 55 P

Collins, Francis T., 206 Med. Arts Bldg., E, 66604
(233-6470)
14 M 1902 43 IM

Connelly, John C., Menninger Fd., Box 829, 66601
(234-9566)
39 M 3806 65 P

Conroy, Robert W., Menninger Fd., Box 829, 66601
(234-9566)
38 M 2604 64 P

Cotton, Robert T., 901 Garfield, 66606
(354-9591)
19 M 1902 45 IM

Crary, John E., Medical Plaza Bldg., 66604
(233-4202)
18 M 1902 43 IM

Crouch, William H., 109 Med. Arts Bldg., W, 66604
(232-8224)
20 M 2802 45 PD

Dean, David B., 1808 Munson, 66604
(233-1344)
39 M 4804 64 P

Delgado, Sergio, 918 W. 10th, 66604
(233-9681)
37 M 2501 62 ORS

Dunagin, Jack A., 918 W. 10th, 66604
(233-9681)
20 M 1902 44 P

Durst, Robert D., Jr., 1706 W. 10th, 66604
(357-5166)
42 M 2803 69 D

Elder, Douglas M., 310 Medical Arts Bldg., 66604
(234-3451)
41 M 1902 69 DR

Feagan, Jerry, 901 Garfield, 66606
(354-9591)
39 M 1902 63 GE

Fernandez, Luis A., 1615 W. 8th, 66606
(233-8961)
14 M 27501 41 PD

Field, Richard A., 224 Med. Arts Bldg., W, 66604
(235-3451)
29 M 1902 55 ANES

Fillman, Eldon M., 1001 Garfield, 66604
(233-4256)
20 M 1611 44 U

Fink, A. Arthur, 6830 Aylesbury Rd., 66610
(478-4996)
13 M 6501 37 OO

Ford, Fred L., 1119 W. 10th, 66604
(234-5516)
11 M 2501 36 GS

Foster, Charles G., 631 Horne, 66606
(232-6964)
21 M 4102 47 IM

Foster, D. Bernard, V.A. Hospital, 66622
(272-3111)
14 M 2501 38 N

Ganzarain, Ramon C., Menninger Foundation, Box 829, 66601
(234-9566)
23 M 23101 47 P

Garza, A. Cesar, Menninger Fd., Box 829, 66601
(234-9566)
43 M 64902 68 P

Gay, John D., 310 Med. Arts Bldg., 66604
(234-3451)
42 M 4802 68 DR

Gendel, Joseph, 918 W. 10th, 66604
(233-9681)
12 M 4804 37 ORS

Gleason, Jimmie A., 8th & Lincoln, 66606
(233-5101)
33 M 1902 58 OBG

Goering, Emil L., 417 E. 6th, 66607
(354-5100)
27 M 1902 57 FP

Gootee, Joseph E., 3204 W. 17th, 66604
(232-7205)
21 M 2834 47 OO

Graham, Charles P., 400 Continental Bldg., 66606
(354-9504)
40 M 3601 65 GS

Gray, David E., 115 W. Crane, 66603
(234-8625)
16 M 1606 42 GEN

Grayib, Antoine S., 417 E. 6th, 66607
(354-5100)
18 M 60501 46 IM

Greenburg, Mark, 310 Med. Arts Bldg., 66604
(234-3451)
46 M 1611 72 R

Greene, Horace T., 1710 W. 10th, 66604
(354-7508)
15 M 401 42 FP

Greenwood, Edward D., Menninger Foundation, Box 829, 66601
(234-9566)
01 M 702 38 CHP

Greer, Richard H., 918 W. 10th, 66604
(233-9681)
09 M 1902 39 IM

Grigsby, George T., Jr., Stormont Vail Hosp., 66606
(234-9961)
41 M 3601 66 IM

Haines, Robert A., State Office Bldg., 66612
(296-3774)
16 M 3841 42 ADM

Halley, M. Martin, 40 Medical Arts Bldg., 66604
(233-1710)
27 M 2401 53 TS

Harris, Hubert L., 210 Med. Arts Bldg., E, 66604
(233-3151)
12 M 1803 39 D

Harris, Patricia A., 1617 W. 26th, 66611
(354-8461)
29 F 1902 54 IM

Harrison, Hall E., 901 Garfield, 66606
(354-9591)
39 M 2802 65 CD

Hartocollis, Peter, Menninger Foundation, Box 829, 66601
(234-9566)
22 M 86905 55 P

Hasselle, James E., Menninger Foundation, Box 829, 66601
(234-9566)
35 M 4706 59 P

Hebbar, Satya N., 918 W. 10th, 66604
(233-9681)
39 M 49509 62 CD

Herrera, Jorge J., 417 E. 6th, 66607
(233-2361)
27 M 64901 55 IM

Hiebert, John B., 420 Continental Med. Bldg., 66606
(357-6251)
40 M 1902 68 CD

Hill, Robert N., 901 Garfield, 66604
(354-9591)
41 M 1902 67 IM

Hirschberg, J. Cotter, Menninger Foundation, Box 829, 66601
(234-9566)
15 M 1602 40 CHP

Hobbs, Donald D., 200 Continental Med. Bldg., 66606
(233-7491)
28 M 2803 54 ORS

Hoherz, David G., 314 Med. Arts Bldg., 66604
(235-1170)
45 M 1902 76 TS

Horne, James B., 315 W. 4th, 66603
(234-2120)
26 M 1606 52 P

Hoyt, Arthur W., 2055 Clay, 66604
(234-5663)
14 M 2501 40 P

Hsu, Cheng H., 918 W. 10th, 66604
(233-9681)
41 M 38502 66 U

Huaman, Antonio, 1700 W. 7th, 66606
(354-8411)
29 M 73701 56 PATH

Huston, Joseph W., 918 W. 10th, 66604
(233-9681)
35 M 1902 62 ORS

Hutton, Frederick A., 102 Med. Plaza Bldg., 66604
(234-0553)
29 M 6701 58 PS

Jackson, Linda H., Menninger Foundation, Box 829, 66601
(234-9566)
42 F 3601 67 CHP

Jacoby, Robert E., II, Continental Med. Bldg., 66606
(232-9394)
46 M 2307 72 FP

Janssen, Erwin T., Menninger Fd., Box 829, 66601
(234-9566)
36 M 1803 62 P

Johnson, Frederick E., 5000 Huntoon, Apt. 608, 66604
(273-0205)
92 M 2843 21 OO

*Johnson, Lee Roy W., 2400 W. 29th, 66611
(267-0155)
37 M 1606 63 P

Joseph, Brian W., 631 Horne, 66606
(234-8653)
38 M 35205 61 CHP

Joss, Charles S., 221 Med. Arts Bldg., 66604
(232-0444)
14 M 1606 40 GS

Joyce, G. Bernard, 200 Continental Med. Bldg., 66606
(233-7491)
17 M 1902 44 ORS

Katz, Jerome B., Menninger Foundation, Box 829, 66601
(234-9566)
22 M 2101 44 P

Kavel, Karl K., Medical Plaza Bldg., 66604
(234-2663)
36 M 3605 64 PDA

Kelly, Dan A., 109 Med. Arts Bldg., W., 66604
(232-7223)
39 M 2803 64 PD

Kennedy, Howard U., 1119 W. 10th, 66604
(233-8268)
18 M 401 44 IM

Keys, Robert C., Jr., 303 Med. Arts Bldg., 66604
(235-3451)
36 M 1902 62 ANES

Kim, Yong W., 631 Horne, 66606
(232-6964)
28 M 58302 49 IM

Kindling, Paul H., 40 Med. Arts Bldg., 66604
(233-1710)
30 M 3545 61 TS

Kirkegaard, Rodger S., 918 W. 10th, 66604
(233-6493)
30 M 1803 56 OPH

Klemmer, Herbert, Menninger Foundation, Box 829, 66601
(234-9566)
11 M 4102 37 P

Kovarik, Ernest D., 900 Washburn, 66606
(357-5171)
36 M 3005 64 OPH

Kroll, Harry G., 200 Continental Med. Bldg., 66606
(233-7491)
24 M 1602 50 ORS
Lawson, Dwight, 108 Meadow Ln., 66606
(272-0667)
06 M 2802 30 OO
Lawson, Robert C., 310 Med. Arts Bldg., W, 66604
(234-3451)
25 M 801 48 R
Lee, Song-Dow, 303 Med. Arts Bldg., 66604
(235-3451)
43 M 38505 68 ANES
Lee, Song P., 918 W. 10th, 66604
(233-9681)
34 M 38502 61 OTO
Lentz, William R., 308 Med. Arts Bldg., W, 66604
(235-3443)
24 M 1902 53 FP
Lessenden, Chester M., Jr., 103 Medical Plaza Bldg., 66604
(234-5533)
18 M 1902 43 D
Levy, Edwin Z., Menninger Foundation, Box 829, 66601
(234-9566)
29 M 1606 54 P
Lumb, Raymond C., 901 Garfield, 66606
(354-9591)
42 M 1001 68 RHU
Lynch, John A., 631 Horne, 66606
(357-0301)
30 M 2834 55 ORS
Marshall, Bromell M., 1826 SW 34th, 66611
(266-7639)
08 M 2802 34 U
Martin, William O., 216 Med. Arts. Bldg., W., 66604
(235-3451)
19 M 1902 44 ANES
Mau, Walter, 301 Medical Blaza Bldg., 66604
(233-4256)
16 M 1611 40 U
McCarter, Duane K., 2101 W. 10th, 66604
(233-8979)
26 M 1902 58 IM
McClellan, John W., 1710 W. 10th, 66604
(234-2624)
11 M 3006 36 EENT
McClintock, Edward A., 111 Med. Arts Bldg., E, 66604
(354-8518)
07 M 1902 33 IM
McClure, James A., 301 Medical Plaza Bldg., 66604
(233-4256)
18 M 1902 44 U
McElroy, Robert T., 221 Med. Arts Bldg., 66604
(232-0767)
35 M 1902 61 GS
Mebed, Ali A. K., Menninger Fd., Box 829, 66601
(234-9566)
19 M 33003 44 P
*Megibow, Alan D., 918 W. 10th, 66604
(233-9681)
37 M 3503 64 CHP
Mehrhof, Edward G., 900 Washburn, 66604
(234-0156)
32 M 3515 62 CHP
Meidinger, Richard, 310 Med. Arts Bldg., 66604
(234-3451)
39 M 1902 65 DR
Menninger, Karl A., Menninger Foundation, Box 829, 66601
(234-9566)
93 M 3545 17 P
Menninger, Robert G., Menninger Foundation, Box 829, 66601
(234-9566)
22 M 3545 52 P
Menninger, Roy W., Menninger Foundation, Box 829. 66601
(234-9566)
26 M 3520 51 P
Menninger, W. Walter, Menninger Foundation, Box 829, 66601
(234-9566)
31 M 3520 57 P
Mills, Philip E., Jr., 1119 W. 10th St., 66604
(234-5661)
36 M 1902 64 N
Mittleman, Frederick S., Menninger Fd., Box 829, 66601
(234-9566)
45 M 3006 70 P
Modlin, Herbert C., Menninger Foundation, Box 829, 66601
(234-9566)
13 M 3005 38 P
Moran, Jeffrey, Menninger Fd., Box 829, 66601
(234-9566)
47 M 42901 72 P
Morris, Merle D., 1401 W. 10th, 66604
(234-2877)
21 M 1902 45 OBG
Morrow, J. Tarlton, Menninger Foundation, Box 829, 66601
(234-9566)
23 M 4804 47 CHP
Moyer, John D., 301 Med. Plaza Bldg., 66604
(233-4256)
39 M 1902 65 U
Mueller, Arnold V., 918 W. 10th, 66604
(233-9681)
31 M 3005 57 IM
Myers, JoAnn, Menninger Foundation, Box 829, 66601
(234-9566)
28 F 1902 53 P
Nabours, Richard D., 4228 W. 29th St. Terr., 66614
(272-7190)
27 M 1902 54 FP
Nagaswami, Subramoney, V.A. Hosp., 66622
(272-3111)
23 M 49505 49 N
Nelson, James N., 918 W. 10th, 66604
(233-9681)
30 M 1902 59 P

Nice, G. William, 112 Med. Arts Bldg., E, 66604
(235-8090)
22 M 1902 46 IM

Novotny, Peter C., Menninger Foundation, Box 829, 66601
(234-9566)
30 M 15407 55 P

Nystrom, Curtis A., 2707 W. 29th, 66614
(272-8440)
23 M 1902 54 FP

Obourn, Robert L., 1150 Oakley, 66604
(234-9566)
19 M 2802 50 P

Olmo-Terron, Neftali, Menninger Fd., 66601
(234-9566)
38 M 84705 65 P

O'Neil, Robert H., 901 Garfield, 66606
(354-9591)
20 M 1902 45 IM

Parman, Robert D., 109 Med. Arts Bldg., W, 66604
(232-8224)
27 M 1902 54 PD

Patel, Vinod, 901 Garfield, 66606
(357-6171)
47 M 49531 69 N

Patino, Edgar, Menninger Fd., Box 829, 66601
(234-9566)
41 M 26406 66 P

Payne, Robert R., 200 Continental Med. Bldg., 66606
(233-7491)
29 M 1902 55 ORS

*Pellegrini, Adolph, V.A. Hosp., 66622
(272-3111)
23 M 56117 47 GS

Penn, George M., Menninger Foundation, Box 829, 66601
(234-9566)
30 M 4802 58 P

Peterson, Dean L., 303 Med. Arts Bldg., W, 66604
(235-3451)
24 M 1902 54 ANES

Peterson, Robert L., 1500 W. 10th, 66604
(272-9815)
36 M 1902 62 FP

Peterson, Vernon J., 310 Med. Arts Bldg., 66604
(234-3451)
42 M 512 68 R

Petrik, Edwin L., Memorial Hospital, 66607
(354-5100)
35 M 1902 64 IM

Pfuetze, Robert E., 209 Med. Arts Bldg., 66604
(232-9257)
09 M 1902 35 OBG

Pierce, Charles F., 918 W. 10th, 66604
(233-9681)
24 M 4101 51 OBG

Pierce, Donald R., 307 Med. Arts Bldg., 66604
(235-2226)
23 M 5101 49 FP

Poggi, Raymond G., Menninger Fd., Box 829, 66601
(234-9566)
33 M 2604 68 P

Polly, Richard E., 631 Horne, 66606
(357-0301)
42 M 1803 68 ORS

Porter, Robert D., 901 Garfield, 66606
(354-9591)
41 M 2802 67 NEP

Powell, Benson M., 400 Continental Med. Bldg., 66606
(354-9504)
26 M 1606 49 TS

Powell, William R., 833 Garfield, 66606
(233-8941)
30 M 1902 54 GS

Preston, Ralph R., 5025 Brentwood Rd., 66606
(234-2624)
19 M 1902 44 OPH

Prokop, Bradford S., 900 Washburn, 66606
(357-5173)
32 M 1606 57 OPH

Pyle, Lucien R., 211 Med. Arts Bldg., 66604
(233-1304)
01 M 1601 28 OBG

Rainbow, Kathryn A., 2916 Kentucky, 66605
(296-4503)
21 F 4707 48 P

Ramsey, Bartlett W., 1001 Horne, 66604
(234-3465)
25 M 1902 50 PD

Ransdell, Edgar C., 8th & Lincoln, 66606
(233-5101)
41 M 3005 66 OBG

Ransom, James H., Med. Plaza Bldg., 66604
(234-2663)
36 M 1803 62 A

Rayburn, Frederick W., 2035 Birchwood Ln., 66604
(357-7607)
11 M 4113 37 OO

Reid, David W., 3017 Sowers Ct., 66604
(234-9566)
43 M 2501 69 CHP (Res)

Reimer, Donald R., St. Francis Hospital, 66606
(354-8411)
34 M 702 62 ANES

Reinking, Victor E., 4408 Holly Lane, 66604
(233-9681)
26 M 1902 51 IM

Rendon, Humberto M., 115 W. Crane, 66603
(234-8621)
36 M 73705 64 PATH

Reymond, Ralph D., 310 Med. Arts Bldg., 66604
(234-3451)
37 M 2301 67 R

Riedel, Robert H., 6731 SW Aylesbury Rd., 66610
(478-4746)
04 M 2802 28 OO

Roberts, Howard E., 700 Harrison, 66603
(354-8461)
12 M 2105 40 ADM

Roberts, Warren E., 2123 Gage, 66614
(272-5797)
25 M 1902 57 FP

Robinson, David B., 800 Lincoln, 66606
(233-5101)
47 M 1902 73 OBG

Roeder, Robert E., 420 Continental Med. Bldg., 66606
(357-6251)
40 M 1902 67 IM

Roskos, S. Richard, Menninger Fd., Box 829, 66601
(234-9566)
42 M 2604 68 P

Ross, Jack L., Menninger Foundation, Box 829, 66601
(234-9566)
32 M 4812 56 P

Rovinski, Helen T., 1631 MacVicar, 66604
(272-3111)
16 F 1001 43 PM

Roy, William R., 1561 Lakeside Dr., 66604
(273-0150)
26 M 1606 48 ADM

Rucker, Clemens, 1205 W. 29th, 66611
(267-1170)
86 M 2822 05 OO

Runnels, John B., 901 Garfield, 66606
(357-6171)
35 M 1902 61 NS

Rupp, Richard J., 901 Garfield, 66606
(354-9591)
42 M 3841 68 CD

Sanchez, Rogelio, 918 W. 10th, 66604
(233-9681)
31 M 64901 64 U

Sargent, Joseph, Menninger Foundation, Box 829, 66601
(234-9566)
32 M 2501 58 IM

Saylor, Edward H., 918 W. 10th, 66604
(233-9681)
39 M 1902 65 PD

Saylor, Leslie L., 918 W. 10th, 66604
(233-9681)
07 M 1606 35 GS

Saylor, Mark, 918 W. 10th, 66604
(233-9681)
37 M 1902 66 GS

Scamman, W. Wike, 115 W. Crane, 66603
(234-8621)
32 M 4705 57 PATH

Schloesser, Harvey L., 918 Merchants Natl. Bank, 66612
(235-3184)
21 M 3901 51 P

Segerson, John A., 901 Garfield, 66606
(357-6171)
18 M 3545 43 N

Sehdev, Joan, 417 E. 6th, 66607
(354-5100)
40 F 6101 63 FP

Settle, Russell O., Jr., Menninger Foundation, Box 829, 66601
(234-9566)
35 M 1902 60 P

Settle, Russell O., Sr., 2320 Chelsea Dr., 66614
(272-8859)
04 M 1902 29 P

Sevier, Samuel M., 3113 College, 66611
(267-0633)
19 M 4812 44 IM

Shaw, Joseph L., 204 Med. Arts Bldg., 66604
(235-6221)
34 M 511 60 ORS

Sheafor, Douglas, 918 W. 10th, 66604
(233-9681)
34 M 1902 60 P

Shelton, Stephen E., 918 W. 10th, 66604
(233-9681)
35 M 702 61 P

Sherwood, Clarence E., 400 Continental Med. Bldg., 66606
(354-9504)
22 M 702 53 GS

Shiney, Margaret L., 1617 W. 26th, 66611
(354-1906)
26 F 1902 54 IM

Simpson, William S., Menninger Foundation, Box 829, 66601
(234-9566)
24 M 6001 48 P

Sisk, Phillip B., 310 Med. Arts Bldg., W, 66604
(234-3451)
32 M 1803 56 R

Smith, Leo A., 918 Buchanan, 66604
(357-0226)
08 M 3006 33 OO

Sodomsky, Martin E., 900 Washburn, 66606
(234-0156)
37 M 6201 61 P

Spearman, Jesse L., 24 Medical Arts Bldg., 66604
(234-2879)
20 M 1902 54 OBG

Spencer, Millard C., 310 Med. Arts Bldg., 66604
(234-3451)
28 M 1902 55 R

Spencer, Wayne E., 103 Med. Arts Bldg., E., 66604
(233-9686)
38 M 1902 64 GE

Stein, Joseph M., 901 Garfield, 66606
(357-6171)
24 M 3519 47 N

Stock, Karl W., 1701 W. 10th, 66604
(235-5205)
13 M 2834 37 OPH

Sutton, Richard O., 631 Horne, 66606
(233-7491)
38 M 4706 67 ORS

Swogger, Glenn, Jr., 5000 Redbud Lane, 66606
(234-9566)
35 M 3806 60 P

Takahashi, Tetsuro, 2228 Llandovery Lane, 66614
(234-9566)
32 M 57211 60 P

Tappen, Daniel L., 8th & Lincoln, 66606
(233-5101)
16 M 1902 41 OBG

Targownik, Karl K., Reception-Diagnostic Cntr., Box 1558, 66601
(296-7281)
15 M 40710 49 P

Tarnower, William, Menninger Foundation, Box 829, 66601
(234-9566)
21 M 4802 48 P

Tempero, Stephen, 310 Med. Arts Bldg., 66604
(234-3451)
42 M 1606 67 R

Teusink, J. Paul, Menninger Fd., Box 829, 66601
(234-9566)
41 M 2501 69 P

Thoms, Norman W., 40 Med. Arts Bldg., 66604
(233-1710)
34 M 2501 59 TS

Thurston, David E., 200 Continental Med. Bldg., 66606
(233-7491)
29 M 1902 55 ORS

Tozer, Richard C., 901 Garfield, 66606
(357-6171)
19 M 4102 45 NS

Travis, John W., 310 Med. Arts Bldg., W, 66604
(234-3451)
29 M 1606 55 TR

Trees, Clyde B., 3700 Huntoon, 66604
(273-0307)
09 M 2401 33 OO

Treger, Newman V., 1704 W. 10th, 66604
(354-8761)
16 M 1902 40 IM

Truitt, William R., St. Francis Hosp., 66606
(354-8411)
37 M 3515 66 EM

*Twemlow, Stuart W., V.A. Hosp., 66622
(272-3111)
41 M 67101 66 P

Uhr, Nathaniel, Menninger Foundation, Box 829, 66601
(234-9566)
00 M 3519 21 IM

VandeGarde, Larry D., 800 Lincoln, 66606
(233-5101)
41 M 1803 66 OBG

Viswanathan, Byravan, 417 E. 6th, 66607
(233-2361)
39 M 49534 62 HEM

Voth, Harold M., Menninger Foundation, Box 829, 66601
(234-9566)
22 M 1902 47 P

Wallace, Leo F., 5500 W. 24th, 66614
(273-0803)
17 M 1902 41 ADM

Walls, William J., 310 Med. Arts Bldg., 66604
(234-3451)
39 M 2834 66 DR

Walz, Royce C., 900 Washburn, 66606
(234-2676)
27 M 15407 60 P

Ward, Howard N., 901 Garfield, 66606
(354-9591)
37 M 1606 62 HEM

Ware, Lucile M., Menninger Foundation, Box 829, 66601
(234-9566)
29 F 3501 53 CHP

Waxse, I. Joseph, 5132 Brentwood, 66606
(272-9066)
12 M 1902 39 FP

Weaver, Walter D., 900 Washburn, 66606
(357-5171)
41 M 1902 69 OPH

Weber, Darrell J., 1710 W. 10th, 66604
(233-2305)
16 M 1902 44 FP

White, Harry H., 901 Garfield, 66606
(357-6171)
34 M 1902 58 N

Wiksten, Vernon C., 807 Terrace Ave., 66611
(233-6645)
11 M 1902 37 OO

Wilcox, Donald E., 122 Danbury Lane, 66606
(296-3782)
24 M 1902 55 PH

Williams, Howard V., State Office Bldg., 66612
(296-3471)
18 M 1205 43 P

Wilson, Marvin H., 38 Med. Arts Bldg., 66604
(234-0591)
38 M 1003 64 GS

Wong, Normund, Menninger Fd., Box 829, 66601
(234-9566)
34 M 502 59 P

Woods, Robert P., 901 Garfield, 66606
(357-6171)
14 M 6701 40 NS

Woollcott, Philip, Jr., Menninger Foundation, Box 829, 66601
(234-9566)
28 M 4102 54 P

Young, Theodore E., 107 Med. Arts Bldg., 66604
(232-0576)
22 M 2307 46 PD

Zee, Hugo J., 1717 Grove, 66606
(234-9566)
30 M 1902 58 P

Zimmerman, William H., 515 Mills Bldg., 66612
(232-4377)
20 M 3006 52 GS

TRIBUNE—316
(Southwest Kansas Society)

Werner, Willard F., 67879
(376-4251)
24 M 1902 52 FP

ULYSSES—316
(Southwest Kansas Society)

Brewer, Marshall A., 223 N. Main, 67880
(356-1261)
19 M 1902 46 FP
Dodson, William W., 207 N. Main, 67880
(356-3101)
24 M 1902 51 FP
Tillotson, Don R., 223 N. Main, 67880
(346-1201)
32 M 1902 65 FP

VALLEY CENTER—316
(Sedgwick County Society)

Daniels, Robert M., 130 Miles Ave., 67147
(755-0394)
24 M 1902 54 FP
Wilson, Robert L., R.R. #1, 67147
(685-2151)
30 M 1902 57 EM
Winchester, Eugene B., R.R.2, Box 196C, 67147
(262-6262)
18 M 3006 56 FP

WAKEENEY—913
(Central Kansas Society)

Berner, Neal E., 323 Russell Ave., 67672
(743-2124)
44 M 1902 72 FP
Clark, David H., 323 Russell Ave., 67672
(743-2124)
36 M 1902 62 FP
Hamilton, James J., 323 Russell Ave., 67672
(743-2124)
30 M 1902 55 FP

WAMEGO—913
(Pottawatomie County Society)

Borgendale, Llewellyn V., 1601 Sunset, 66547
(456-2291)
29 M 1902 60 FP
Braden, Bill L., 507 Elm, 66547
(456-2291)
31 M 1902 60 FP
Clark, Laurence A., 507 Elm, 66547
(456-2291)
12 M 1902 42 FP

WASHINGTON—913
(Northeast Kansas Society)

Bitzer, Donald A., 115 W. 3rd, 66968
(325-2315)
03 M 3005 26 OO
Gomel, Ray G., 201 West 2nd, 66968
(325-2760)
99 M 1902 28 OO
Warren, Linda D., 107 E. 3rd, 66968
(325-2240)
44 F 1902 70 FP

WATHENA—913
(Northeast Kansas Society)

Peterson, Evan A., Jr., Box 98, 66090
(989-3122)
24 M 1803 55 FP

WELLINGTON—316
(Tri-County Society)

Anderson, Larry R., 1323 North A St., 67152
(326-3301)
43 M 1902 73 FP
Cole, Ward M., 110 N. Jefferson, 67152
(326-7221)
08 M 1902 36 FP
Diacon, James L., 124 E. Lincoln, 67152
(326-2111)
24 M 3901 52 FP
Hesse, Robert S., 1323 North A, 67152
(326-7792)
43 M 1902 69 PATH
McCormick, Eugene C., Security State Bank Bldg., 67152
(326-3914)
31 M 1902 56 FP
McGovern, James L., 124 E. Lincoln, 67152
(326-2111)
22 M 3901 52 FP
Weigand, Joel T., 1323 North A St., 67152
(326-3301)
43 M 1902 70 FP

WELLSVILLE—913
(Franklin County Society)

Simmons, William C., 612 Main, 66092
(883-2191)
34 M 1902 60 FP

WESTMORELAND—913
(Pottawatomie County Society)

Dechairo, Thomas, 66549
(457-3311)
13 M 1902 36 FP

WICHITA—316
(Sedgwick County Society)

*Abbas, Dilawer H., 3600 E. Harry, 67218
(685-1111)
45 M 70402 71 N
Adams, Austin J., 435 N. Roosevelt, 67208
(682-4812)
10 M 4804 36 OO
Agustin, Conrado M., 1035 N. Emporia, 67214
(267-3389)
38 M 74807 62 OBG
Ahlstrand, Richard A., 3333 E. Central, 67208
(685-1291)
41 M 3005 67 DR
Alfonso, Manuel, 3244 E. Douglas, 67208
(689-9445)
37 M 84710 66 ANES
Anderson, Donald S., 3333 E. Central, 67208
(685-4389)
42 M 1902 69 ANES

Anderson, Eugene G., Sutton Place, 67202
(265-8619)
19 M 1902 44 OBG
Anderson, Harry O., 14516 E. Pawnee, 67230
(733-1072)
08 M 1601 34 OO
Anderson, V. Gary, 1520 S. Clifton, 67218
(685-2371)
42 M 3901 67 EM
Arthur, Arvin, 1035 N. Emporia, 67214
(263-3271)
42 M 1720 66 CD
Artz, Tyrone D., 3244 E. Douglas, 67208
(689-9171)
41 M 1803 67 ORS
Ashmore, Arthur L., 5025 E. Kellogg, 67218
(682-1534)
05 M 1902 32 TS
Aunins, John, 4853 Hemlock, 67216
(524-6805)
28 M 4706 56 FP
Bacon, Arthur H., 3244 E. Douglas, 67208
(689-9124)
13 M 3515 37 NS
Bailey, Donald C., 3243 E. Murdock, 67208
(685-1491)
37 M 3901 65 ORS
Bair, Albert E., 3244 E. Douglas, 67208
(689-9163)
16 M 1902 44 GS
*Barba, Antonio P., Jr., 1035 N. Emporia, 67214
(267-3389)
34 M 74807 62 OBG
*Barba, Estrella G., 1035 N. Emporia, 67214
(262-1853)
41 F 74802 66 CHP
Barker, Benjamin W., 1148 S. Hillside, 67211
(683-4647)
18 M 1902 51 FP
Barnes, Marian, 211 S. Belmont, 67218
(684-2679)
97 F 2802 37 OO
Barnett, Arnold M., 3243 E. Murdock, 67208
(685-2377)
32 M 83601 54 N
Bartlett, Wayne C., 3244 E. Douglas, 67208
(689-9124)
07 M 1601 31 GS
Bass, O. Edward, II, 851 N. Hillside, 67214
(685-1371)
40 M 2803 71 U
*Bates, Michael D., 2703 E. Central, 67214
(685-1277)
48 M 3005 74 OBG
Bauman, M. Leon, 1629 University, 67213
(265-7685)
01 M 1902 44 OO
Baumann, Paul A., 3333 E. Central, 67208
(685-1291)
32 M 5605 57 TR
Beaver, James L., 959 N. Emporia, 67214
(263-3262)
09 M 2101 35 GS

Bebak, Donald M., 2322 E. Central, 67214
(263-6186)
32 M 3508 58 ANES
*Bell, John D., 1035 N. Emporia, 67211
(263-7285)
44 M 4802 69 IM
Bethel, Chandler S., 5107 E. 21st, 67208
(682-6559)
34 M 1902 59 IM
Biermann, Henry J., 425 E. Murdock, 67214
(265-6287)
27 M 3006 52 GS
Biermann, William J., 1435 Lieunett, 67203
(265-0594)
04 M 3006 29 OO
Binyon, Kernie W., 4618 E. Central, 67208
(684-2819)
24 M 1902 56 FP
Blaylock, Hoyt C., 835 N. Hillside, 67214
(685-4395)
21 M 1902 45 D
Blood, Mary J., 647 N. Hillside, 67214
(682-4559)
13 F 1902 49 PD
Bond, Roger C., 3243 E. Murdock, 67208
(684-0251)
40 M 5606 67 CD
Bowman, Harold S., 1441 N. Rock Rd., 67206
(682-6212)
04 M 2802 30 OO
Boyd, Zane R., 120 S. Maize Rd., #12, 67209
(722-4556)
26 M 3005 52 FP
Boyle, Hugh H., 424 N. Woodlawn, 67208
(686-2193)
33 M 3806 60 PATH
Brake, David, 3333 E. Central, 67208
(685-1291)
43 M 702 68 R
*Braun, Thomas G., 3243 E. Murdock, 67208
(685-2377)
35 M 6001 61 N
Braun, William T., III, 3333 E. Central, 67208
(685-1291)
37 M 2802 61 R
*Breckbill, David L., 3333 E. Central, 67208
(685-1291)
38 M 1902 64 R
Brinton, Edward S., St. Francis Hosp., 67214
(262-6211)
15 M 1611 41 ADM
Brito, Raul E., 3243 E. Murdock, 67208
(682-4523)
32 M 31901 59 U
Brosius, Frank C., 3243 E. Murdock, 67208
(684-0251)
25 M 1902 49 CD
Brown, Alex L., 215 Patton, 67208
(685-0738)
15 M 3840 40 OO
*Brown, David J., 425 E. Murdock, 67206
(265-6287)
45 M 1902 71 GS

Brown, Robert L., 5025 E. Kellogg, 67218
(682-1534)
21 M 1902 49 FP
Brown, Ronald C., 3243 E. Murdock, 67208
(685-8231)
47 M 2803 73 FP
Brown, Ronald L., 303 S. Hillside, 67211
(684-7251)
45 M 3901 71 ANES
Brown, Val J., 1802 N. Hydraulic, 67214
(265-1137)
24 M 1003 47 FP
Browning, William H., 851 N. Hillside, 67214
(685-1371)
16 M 1902 43 U
Bubeck, Ralph W., 3244 E. Douglas, 67208
(689-9396)
36 M 1803 62 IM
Buck, Ben H., Jr., 5105 E. 21st, 67208
(684-2081)
17 M 2834 43 TS
Budetti, Joseph A., 427 N. Hillside, 67214
(686-6608)
11 M 3509 36 OTO
Burney, William W., 1755 N. Madison, 67214
(264-8311)
17 M 1902 52 FP
Burpee, James F., 851 N. Hillside, 67214
(685-1371)
39 M 5605 66 U
*Bustamante, Sergio A., WSU Branch, KUMS, 67214
(268-8302)
42 M 64901 66 PD
Buth, Dennis K., 2916 E. Central, 67214
(684-5243)
45 M 1902 72 IM
Butin, J. Walker, 3244 E. Douglas, 67208
(689-9477)
23 M 1902 47 GE
Caliendo, Daniel J., Jr., 550 N. Hillside, 67214
(685-2563)
41 M 1902 67 EM
Capper, Stanley L., 3244 E. Douglas, 67208
(689-9206)
37 M 1803 67 D
Carreau, Ernest P., 5105 E. 21st, 67208
(682-0281)
17 M 1902 44 GS
Carter, Mack A., 3333 E. Central, 67208
(684-5158)
18 M 1902 50 OPH
Casey, John J., 3243 E. Murdock, 67208
(685-2377)
25 M 2604 57 NS
Cauble, Wilbur G., 1148 S. Hillside, 67211
(683-1681)
12 M 2834 39 GS
Cawley, Leo P., 550 N. Hillside, 67214
(685-2151)
22 M 3901 52 PATH
Chang, Frederic C., 905 N. Emporia, 67214
(263-0296)
35 M 2401 59 GS
Chapman, James H., 808 N. Emporia, 67214
(265-1684)
27 M 4706 63 R
Chard, Frederick, 3244 E. Douglas, 67208
(689-9129)
15 M 5605 39 D
Chiu, Chu-shin, 3244 E. Douglas, 67208
(689-9319)
38 M 2604 66 IM
*Christman, Carl, Jr., 345 N. Hillside, 67214
(682-7539)
48 M 4802 74 OBG
Clark, Courtney, 303 S. Hillside, 67211
(684-7251)
30 M 1902 56 ANES
Clifton, H. David, 3600 E. Harry, 67218
(685-1111)
41 M 401 65 R
*Clyde, H. Robert, 3244 E. Douglas, 67208
(689-9185)
41 M 1902 67 U
Cohlmia, Jerry B., 1035 N. Emporia, 67214
(263-5891)
43 M 1902 70 NEP
Coleman, Thomas J., 959 N. Emporia, 67214
(265-0749)
18 M 3545 51 IM
*Collier, Harold W., 303 S. Hillside, 67211
(684-7251)
45 M 1902 71 ANES
Concepcion, Eugenio S., Jr., 1152 S. Clifton, 67218
(681-2401)
39 M 74802 64 TS
Conrardy, Peter A., 3243 E. Murdock, 67208
(686-7327)
42 M 502 69 ANES
Cook, D. Ray, 315 N. Hillside, 67214
(686-3391)
42 M 2012 71 FP
Cook, G. Edward, 3600 E. Harry, 67218
(685-1111)
42 M 401 67 R
Corrigan, George F., 1828 W. 18th, 67203
(838-8544)
95 M 3006 20 OO
Cossman, F. Price, 851 N. Hillside, 67214
(685-1371)
28 M 1902 57 U
Cowles, George E., 47 Mission Rd., 66206
(683-0317)
96 M 1902 21 OO
Cowles, Gordon T., 3333 E. Central, 67208
(683-2661)
32 M 1902 58 OBG
*Crane, David D., 929 N. St. Francis, 67214
(262-6211)
34 M 2501 60 PATH
*Criswell, Mildred L., 1520 S. Clifton, 67218
(685-2371)
42 F 1902 67 EM
Cronin, Donald J., 3244 E. Douglas, 67208
(689-9227)
16 M 2604 40 ENT

Crow, Ernest W., 3243 E. Murdock, 67208
(684-0251)
20 M 1902 44 CD
Crowley, Edward X., 345 N. Hillside, 67214
(682-4519)
14 M 1643 39 GYN
Cummings, Richard J., 427 N. Hillside, 67214
(686-6608)
32 M 1902 57 OTO
Davenport, S. Scott, 3333 E. Central, 67208
(684-8811)
30 M 401 61 N
Davidson, Harry T., 556 N. Broadview, 67208
(686-8282)
87 M 3802 11 OO
*Davis, Paul H., 3243 E. Murdock, 67208
(685-8231)
47 M 3901 72 FP
Davis, Ronald B., 1148 S. Hillside, 67211
(684-0271)
46 M 1902 72 FP
DeBakker, Jan B., 1035 N. Emporia, 67214
(263-4903)
25 M 5104 59 GS
*Deckert, Rosalie E., 3244 E. Douglas, 67208
(689-9212)
47 F 2803 73 IM
DeJong, David C., 929 N. St. Francis, 67214
(262-6211)
33 M 2501 59 PATH
*DeMoss, Eleanor P., 3333 E. Central, 67208
(682-5523)
42 F 74802 66 PD
*Desai, Mohan G., 925 N. Emporia, 67214
(263-3219)
25 M 49501 51 DR
Donnell, James M., 3306 E. Central, 67208
(682-6121)
28 M 1902 55 FP
Doornbos, J. Fred, 929 N. St. Francis, 67214
(262-6211)
28 M 1902 57 R
Drake, Ralph L., 4422 E. 3rd, 67208
(682-8880)
99 M 4102 26 OO
Drevets, Curtis C., 3244 E. Douglas, 67208
(689-9178)
30 M 1902 56 IM
*Duick, Gregory F., 1035 N. Emporia, 67214
(263-3271)
46 M 1643 72 CD
Durano, Antonio C., Jr., 959 N. Emporia, 67214
(263-7893)
29 M 74807 56 U
Dyck, Cora E., 702 Waverly, 67218
(686-0844)
00 F 1902 26 OO
Dyck, George, WSU Branch, KUMS, 67214
(268-8388)
37 M 6201 64 P
*Dyer, Vernon E., 3244 E. Douglas, 67208
(689-9234)
36 M 301 72 OBG
Eckert, William G., 929 N. St. Francis, 67214
(262-6211)
26 M 3519 52 PATH
Edwards, Manis C., 3333 E. Central, 67208
(683-2661)
33 M 3005 58 OBG
Egelhof, Richard H., 841 N. Broadway, 67214
(263-6131)
45 M 1902 73 FP
Ellis, Harvey D., 6611 E. Central, 67206
(683-1022)
24 M 1902 55 GS
Elnen, Walter T., 460 N. Terrace Dr., 67208
(682-5671)
03 M 1643 32 GS
*Elneser, Rafael, 929 N. St. Francis, 67214
(262-6211)
39 M 84708 67 OBG
Emery, Frank A., 10 St. James Place, 67206
(683-0217)
05 M 2802 29 OO
Erken, Ronald V., 3101 E. 9th, 67214
(684-0201)
29 M 2834 56 P
Evans, Farris D., 521 Rutland Rd., 67206
(682-1391)
05 M 1902 32 FP
Evans, Grant E., 3333 E. Central, 67208
(682-6556)
21 M 4901 46 OBG
*Evans, Kenneth L., 1131 S. Clifton, 67218
(685-4354)
42 M 3901 67 FP
Farha, George J., 905 N. Emporia, 67214
(263-0296)
27 M 2101 57 GS
Farha, S. Jim, 905 N. Emporia, 67214
(263-0296)
31 M 1001 57 TS
Fender, Thomas H., Jr., 3201 E. 2nd, 67208
(682-1886)
25 M 4812 54 NP
*Ferris, Bruce G., 825 N. Emporia, 67214
(262-3495)
43 M 1902 69 PS
Fieldman, E. Jay, 2322 E. Central, 67214
(263-6186)
26 M 3508 51 ANES
Finley, Dennis R., 1035 N. Emporia, 67214
(262-7429)
36 M 1606 62 ORS
Firkins, Richard T., 1035 N. Emporia, 67214
(263-5865)
31 M 1803 56 ENT
Fisher, James B., 3244 E. Douglas, 67208
(689-9477)
09 M 1902 36 IM
Fitzgerald, Edward J., 3600 E. Harry, 67218
(685-1111)
22 M 3006 50 R
*Fleming, Forney W., 3243 E. Murdock 67208
(683-1491)
43 M 4802 69 ORS

Flowers, Clell B., Jr., 855 N. Hillside, 67214
(685-1381)
22 M 1902 55 FP
Ford, Charles R., 1301 N. West St., 67203
(942-4279)
38 M 1902 63 OPH
Fowler, Robert J., 3244 E. Douglas, 67208
(689-9236)
37 M 2802 63 IM
Francis, Norton L., 5205 E. 21st, 67208
(684-2838)
10 M 3005 35 OTO
Fritz, George E., 550 N. Hillside, 67214
(685-2151)
18 M 2507 43 PATH
Fritzemeier, William H., 835 N. Hillside, 67214
(685-4395)
14 M 1902 41 D
Fromm, Arthur H., 315 N. Hillside, 67214
(685-2281)
37 M 1902 63 FP
Fulton, John K., 3333 E. Central, 67208
(686-0732)
18 M 5605 43 IM
*Galichia, Joseph P., 1035 N. Emporia, 67214
(263-3271)
42 M 1902 69 CD
Galvan, Alonso, 3243 E. Murdock, 67208
(684-0252)
38 M 64906 64 GE
George, Earl F., 406 E. Central, 67202
(265-6991)
35 M 1902 65 FP
George, M. Don, WSU Branch, KUMS, 67214
(268-8388)
31 M 1001 56 P
Gessler, Donald J., 1122 N. Topeka, 67214
(265-2876)
41 M 1902 67 FP
*Gilmartin, Richard C., 3243 E. Murdock, 67208
(685-2377)
32 M 4221 58 PDN
Givner, David, 611 N. Hillside, 67214
(684-0501)
03 M 2301 29 IM
Goering, Robert C., 3600 E. Harry, 67218
(685-1111)
25 M 64901 56 PATH
Goldberg, Herbert R., 400 N. Woodlawn, 67208
(685-4215)
33 M 3508 59 PD
*Gonzalez, Francisco, 1035 N. Emporia, 67214
(265-3226)
46 M 73706 70 IM
Gonzalez, Hiram P., 1035 N. Emporia, 67214
(262-1853)
20 M 64901 52 P
*Goodin, Ethelynn A., 3244 E. Douglas, 67208
(689-9332)
42 F 401 66 P
*Goodin, Walker D., 3244 E. Douglas, 67208
(689-9332)
34 M 1720 62 P
Goodpasture, Hewitt C., WSU Branch, KUMS, 67214
(268-8378)
43 M 1902 69 IM
Gouldner, René M., 139 Courtleigh, 67218
(683-3282)
88 M 3501 18 OO
Goyle, Krishan Kumar, 1111 N. St. Francis, 67214
(265-2613)
34 M 49529 63 CD
*Goyle, Vimal, 1111 N. St. Francis, 67214
(265-2613)
41 M 49529 65 OBG
Grauel, Charles W., 5141 E. 10th, 67208
(262-1127)
44 M 1902 70 ANES
Grauel, Truman W., 3333 E. Central, 67208
(682-6511)
41 M 5605 66 OBG
Graves, Jack W., 3244 E. Douglas, 67208
(689-9124)
17 M 1902 42 GS
Gray, C. Lucien, 4821 E. Central, 67208
(684-5171)
21 M 1902 45 ENT
Gray, H. Tom, 3244 E. Douglas, 67208
(689-9453)
19 M 401 44 D
Gribble, Robert N., 925 N. St. Francis, 67211
(262-6211)
43 M 1902 69 R
Grillot, Floyd B., 814 S. Woodlawn, 67218
(684-0243)
18 M 1902 51 FP
*Grohs, Heinz K., 550 N. Hillside, 67214
(685-2151)
42 M 15407 66 PATH
*Grund, Frank M., 3244 E. Douglas, 67208
(689-9420)
47 M 1803 72 IM
Grushnys, Arnold A., 3244 E. Douglas, 67208
(689-9445)
19 M 40721 59 ANES
Gsell, George F., 3244 E. Douglas, 67208
(689-9316)
07 M 1601 33 OPH
*Gunther, Loretto A., 550 N. Hillside, 67211
(685-2563)
39 F 4107 65 GS
Guthrie, Richard A., WSU Branch, KUMS, 67214
(268-8302)
35 M 2803 60 PD
Hagan, C. Thomas, 959 N. Emporia, 67214
(265-0789)
16 M 3006 42 IM
Hagan, Francis J., 1250 Maple, 67213
(262-1057)
13 M 3006 39 FP
Hale, Ralph, 847 S. Hillside, 67211
(684-0295)
18 M 1902 46 A
*Hall, J. Roger, 3333 E. Central, 67208
(685-5227)
42 M 4802 68 OPH

Halpin, Edward D., 1148 S. Hillside, 67211
(685-9229)
33 M 1902 62 OBG
Harms, Edwin M., 5623 Polo Dr., 67208
(686-6492)
06 M 3901 34 OO
Harris, Frank H., 1035 N. Emporia, 67214
(262-1853)
09 M 1001 39 NP
Harrison, Alvie B., 3333 E. Central, 67208
(682-2314)
99 M 1902 25 D
Hart, Dillis L., 5105 E. 21st, 67208
(684-2081)
36 M 3901 64 TS
Harvey, Rosemary B., 2004 Wellington Pl., 67203
(265-5674)
24 F 1902 49 PH
*Harvey, Thomas S., 2007 S. Hydraulic, 67211
(267-8247)
12 M 00801 41 PATH
Hattrup, Richard J., 610 N. Tyler, 67212
(681-3016)
31 M 3006 57 FP
Hawley, Raymond G., 3600 E. Harry, 67218
(685-1111)
39 M 1902 65 PATH
Hayes, William L., 3333 E. Central, 67208
(684-0251)
28 M 1902 53 CD
Henning, Charles E., 320 N. Hillside, 67214
(682-3221)
38 M 1902 63 ORS
Hensley, Cline D., Jr., 3244 E. Douglas, 67208
(689-9272)
20 M 1902 44 ORS
Hered, John, 959 N. Emporia, 67214
(262-3613)
41 M 2802 67 NS
Hershorn, Simon E., 3333 E. Central, 67208
(685-1291)
22 M 1902 46 R
Hiebert, Abraham E., 1530 W. 13th, 67203
(264-6447)
94 M 2802 25 PS
Hinshaw, Alfred H., 6110 Oneida, 67208
(685-3974)
07 M 1902 33 OO
Hinshaw, Charles T., 357 N. Hillside, 67214
(682-8651)
99 M 4705 26 PD
Hiratzka, Tomiharu, 550 N. Hillside, 67214
(685-2151)
13 M 511 43 PATH
*Hizon, Ramon R., 929 N. St. Francis, 67214
(262-6211)
38 M 74801 62 R
Hodson, Hervey R., 1122 S. Clifton, 67218
(682-5012)
03 M 1606 31 GS
Holden, Raymond F., 3333 E. Central, 67208
(683-1932)
10 M 2802 33 IM

Holladay, Harmon M., 327 N. Rutan, 67208
(681-0431)
23 M 1902 52 ANES
Horbelt, Douglas V., 3333 E. Central, 67208
(682-6511)
47 M 4802 72 OBG
Howard, Donald O., 959 N. Emporia, 67214
(265-7241)
11 M 1902 38 OPH
Huebert, Dean A., 5025 E. Kellogg, 67218
(682-1534)
22 M 1902 46 FP
Hull, Kenneth L., 1035 N. Emporia, 67214
(648-0201)
38 M 2301 69 P
Hultgren, Myron K., 855 N. Hillside, 67214
(685-1381)
41 M 1902 68 FP
Hume, Joseph W., 3333 E. Central, 67208
(682-6511)
38 M 1902 69 OBG
Hummer, Lloyd M., 3244 E. Douglas, 67208
(689-9323)
32 M 3901 57 IM
Hurst, Thomas C., 959 N. Emporia, 67214
(264-3543)
14 M 1902 38 PD
Hustead, Robert F., 2401 N. Pershing, 67220
(685-4389)
28 M 801 54 ANES
Hyndman, H. Harold, 7015 Rockwood Rd., 67206
(683-0420)
10 M 1902 36 OO
Hynes, Henry E., 1035 N. Emporia, 67214
(262-4467)
35 M 53902 58 HEM
Ibarra, J. Luis, 1035 N. Emporia, 67214
(262-1853)
20 M 64901 46 P
Jackson, Charles R., 1035 N. Emporia, 67214
(263-0812)
27 M 1606 53 GS
James, Vernon L., WSU Branch, KUMS, 67214
(268-8302)
29 M 3601 55 PD
Jazayerli, Nabil, 1152 S. Clifton, 67218
(681-2401)
44 M 87501 70 CD
Jehan, Sayed S., 1801 E. 10th, 67214
(268-8251)
33 M 70403 59 P
Jenney, Charles B., 905 N. Emporia, 67214
(263-0296)
34 M 2834 61 GS
Johnson, Thomas E., 3333 E. Central, 67208
(685-1291)
41 M 1643 67 R
*Judilla, Francisco, Jr., 2322 E. Central, 67214
(263-6186)
44 M 74811 71 ANES
Kadison, Herbert I., 929 N. St. Francis, 67214
(262-6211)
44 M 1611 69 R

Kaelson, Paul A., Jr., 2012 W. 13th, 67203
(943-8671)
17 M 1902 50 FP
Kardatzke, E. Stanley, 1301 N. West, 67203
(943-9342)
39 M 1720 64 FP
Kardatzke, Jon K., 1301 N. West, 67203
(942-3271)
36 M 1720 62 FP
Kasha, Robert L., 1442 N. Oliver, 67208
(684-0181)
11 M 2834 38 GS
*Kassebaum, Kenneth G., 3420 E. Douglas, 67208
(685-6381)
34 M 1606 60 CHP
Kaufman, Eugene E., 3243 E. Murdock, 67208
(685-1491)
30 M 1902 56 ORS
Keene, George H., 5025 E. Kellogg, 67218
(682-1534)
20 M 1902 49 GS
Keeny, M. Gary, 841 N. Broadway, 67214
(263-6131)
36 M 1902 66 FP
*Keller, James P., 1431 S. Bluffview Dr., 67218
(685-1284)
48 M 1902 74 IM
Kendall, Tom E., 825 N. Emporia, 67214
(262-3495)
37 M 3901 62 PS
Kendrick, J. Gilleran, 3333 E. Central, 67208
(682-6511)
20 M 1902 46 OBG
Kennedy, Gerald T., 2916 E. Central, 67214
(684-5243)
35 M 1902 61 GE
Khicha, Gyanchand J., 905 N. Emporia, 67214
(263-0296)
37 M 49530 61 TS
Khoury, George H., 3333 E. Central, 67208
(681-2021)
32 M 33002 55 PD
Kim, Paik N., 1035 N. Emporia, 67214
(262-4467)
33 M 58302 58 ND
Kim, Soon E., 424 N. Woodlawn, 67208
(686-2193)
27 M 58301 48 PATH
Kirk, Earl D., Jr., 1431 Bluffview Dr., 67218
(685-1351)
34 M 1902 62 IM
Kiser, John L., 3243 E. Murdock, 67208
(685-6222)
37 M 2802 62 GS
Kiser, Willard J., 3243 E. Murdock, 67208
(685-6222)
05 M 4705 30 GS
Kitchen, Robert R., 3420 E. Douglas, 67208
(685-2355)
26 M 1902 52 CHP

Klaus, Hanna, 929 N. St. Francis, 67214
(262-6211)
28 F 2002 50 OBG
Knapp, Leslie E., 302 S. Crestway, 67218
(682-5792)
96 M 1902 25 OO
Knapp, M. Robert, 303 S. Hillside, 67211
(684-7251)
23 M 3519 47 ANES
Knappenberger, Roy C., 3244 E. Douglas, 67208
(689-9327)
16 M 1902 41 PD
Kneidel, Thomas W., 925 N. Emporia, 67214
(262-3476)
40 M 4101 66 ORS
Kouri, Sammy H., 3243 E. Murdock, 67208
(682-2911)
33 M 3901 57 GS
Krause, Roland L., 855 N. Hillside, 67214
(685-1381)
25 M 1902 53 IM
Kurth, C. Joseph, 925 N. Emporia, 67214
(263-6177)
10 M 3006 35 NP
Kutilek, Frank J., 8937 W. Central, 67212
(722-4258)
30 M 1902 57 FP
Laham, Alexander J., 2723 Boulevard Plaza, 67211
(683-4658)
20 M 1902 44 IM
*Lai, Jeng Y., 1111 N. St. Francis, 67214
(265-2613)
41 M 38502 67 TS
Lance, John F., Jr., 3244 E. Douglas, 67208
(689-9438)
20 M 1902 45 ORS
Lawn, Raymond A., 715 N. Mission Rd., 67206
(683-8991)
09 M 2604 35 AM
Lazar, Harry, 611 N. Hillside, 67214
(684-0501)
08 M 1611 35 A
Lee, Edward S., Jr., 2002 E. 17th, 67214
(264-8273)
09 M 4707 37 FP
Lee, R. Rex, 6155 E. Harry, 67218
(685-2306)
29 M 3901 55 FP
*Lee, Sang Oug, 1001 N. Minneapolis, 67214
(263-8388)
42 M 58304 1967 P
Leisy, Jerald W., 3101 E. 9th, 67214
(684-1156)
42 M 1902 68 P
Lies, James E., 3244 E. Douglas, 67208
(689-9111)
43 M 1902 69 IM
*Lies, Richard B., 3244 E. Douglas, 67208
(689-9111)
42 M 1902 68 RHU
Lin, Joe J., 929 N. St. Francis, 67214
(262-6211)
42 M 24404 69 PATH

Lin, Tung K., 2916 E. Central, 67214
(684-5243)
22 M 24226 47 CD
Lindley, Milton E., 657 S. Terrace Dr., 67218
(683-3406)
14 M 1902 50 OO
Linhardt, Ronald D., 3243 E. Murdock, 67208
(683-2655)
36 M 2803 64 OBG
*Littell, James A., 1520 S. Clifton, 67218
(685-2371)
44 M 1902 71 IM
Little, L. Gilbert, 502 Brown Bldg., 67202
(263-7614)
99 M 401 27 P
Lockhart, Joseph G., 5900 E. Central, 67208
(684-7239)
17 M 4113 43 PD
Loeffler, James A., 400 N. Woodlawn, 67208
(685-5375)
36 M 3841 63 A
Loewen, Henry H., 2142 W. 17th, 67203
(943-0993)
03 M 1902 35 OO
Loewen, William C., 1301 N. West, 67203
(943-3253)
41 M 1902 71 FP
Logan, Geoffrey G., 345 N. Hillside, 67214
(682-4572)
31 M 14303 56 OBG
Lovett, Paul A., 902 N. Hillside, 67214
(683-6683)
09 M 1902 45 ORS
Low, Harold L., 1148 S. Hillside, 67211
(684-2858)
18 M 1902 44 FP
Lueken, Lueke B., 3244 E. Douglas, 67208
(689-9234)
23 M 40723 52 OBG
Luellen, Thomas J., 3244 E. Douglas, 67208
(689-9244)
17 M 1902 41 IM
Luzzati, Enzo F., 929 N. St. Francis, 67214
(262-6211)
25 M 56119 50 R
Madison, Ward N., Jr., 3600 E. Harry, 67218
(686-9432)
37 M 3601 62 PATH
*Mansour, Badie S., 3243 E. Murdock, 67208
(686-7327)
45 M 33002 69 ANES
Marsh, Henry O., 925 N. Emporia, 67214
(262-3476)
18 M 1611 43 ORS
Martin, Glen E., 2322 E. Central, 67214
(263-6186)
20 M 1902 49 ANES
Marymont, Jesse H., Wesley Med. Center, 67214
(685-2151)
28 M 3515 54 PATH
Mastio, George J., 3243 E. Murdock, 67208
(684-5235)
25 M 1902 52 GS

Matassarin, Benjamin M., 2916 E. Central, 67214
(684-5243)
20 M 1902 45 IM
Matassarin, Frederick W., 734 N. Emporia, 67214
(265-2382)
15 M 1902 37 U
*Mawdsley, Michael W., 3333 E. Central, 67208
(686-6659)
49 M 1902 74 PD
McClanahan, Ward A., 5105 E. 21st, 67208
(684-8211)
22 M 3005 48 ORS
McClellan, Ernest L., 3243 E. Murdock, 67208
(686-7327)
38 M 4802 70 ANES
McCoy, Charles P., 3333 E. Central, 67208
(682-6511)
17 M 3006 42 OBG
McGuire, William F., 3333 E. Central, 67208
(683-5655)
17 M 4101 43 PD
*Meadows, Donald C., 3333 E. Central, 67208
(683-5611)
36 M 102 69 OPH
Meeker, Bruce P., II, 345 N. Hillside, 67214
(682-7539)
30 M 1902 58 OBG
Megaffin, Bernard B., 550 N. Hillside, 67214
(685-2151)
50 M 1902 75 IM
*Meller, Donald R., 130 S. Greenwich, 67207
(685-2858)
30 M 1643 56 IM
*Melvin, David B., 905 N. Emporia, 67214
(263-0296)
42 M 4706 67 TS
Menaker, Jerome S., 2703 E. Central, 67214
(685-1277)
16 M 1002 41 OBG
Mendiones, Marlene L., 835 N. Hillside, 67214
(685-4395)
45 F 1611 70 D
*Mendiones, Ruperto D., 3243 E. Murdock, 67208
(682-6585)
44 M 1611 71 IM
Menehan, H. James, 3244 E. Douglas, 67208
(689-9404)
26 M 1902 53 PD
Menking, F. W. Manfred, 3244 E. Douglas, 67208
(689-9336)
34 M 40715 61 PD
Meredith, W. Tom, 1035 N. Emporia, 67214
(263-7285)
35 M 4812 61 IM
Merritt, Joe P., 2703 E. Central, 67214
(685-1277)
46 M 2802 71 OBG
Mershon, James C., 1035 N. Emporia, 67214
(263-3271)
37 M 1803 63 CD
Meulbroek, Harvey J., 3244 E. Douglas, 67208
(689-9156)
31 M 5605 56 A

Meyer, Warren E., 1144 S. Clifton, 67218
(684-5237)
27 M 1606 51 GS
Michelbach, Albert P., 2916 E. Central, 67214
(684-5243)
35 M 2101 61 CD
Miller, Don E., 4145 E. Kellogg, 67218
(682-0621)
20 M 2802 44 GS
*Miller, Lawrence H., 1131 S. Clifton, 67218
(685-4354)
40 M 1001 67 FP
Mills, Charles D., 1140 S. Water, 67213
(262-5940)
89 M 2002 14 OO
Mills, George Q., 1420 Brookfield, 67206
(681-1168)
48 M 3006 73 PATH (Res)
Mirza, Medo, 3333 E. Central, 67208
(686-6683)
38 M 40733 64 PDS
Mitchell, Alex C., P.O. Box 42, 67201
(267-6276)
18 M 1902 50 FP
Moore, Dennis F., 1035 N. Emporia, 67214
(265-3226)
36 M 2101 62 HEM
Morgan, Dick A., 3243 E. Murdock, 67208
(686-7327)
43 M 3901 69 ANES
Morgan, James I., 3124 S. Seneca, 67217
(522-2266)
29 M 1606 53 FP
Morgan, Louis S., III, 8030 E. Kellogg, 67207
(683-3811)
22 M 3901 48 FP
Morrison, Richard L., 1148 S. Hillside, 67211
(683-6506)
42 M 1902 67 FP
Morrow, Thomas F., 3310 E. Douglas, 67208
(685-1443)
21 M 5606 46 P
Moseley, Jack E., 1120 S. Clifton, 67218
(682-4982)
25 M 3901 53 FP
Mosier, Stanley J., 3243 E. Murdock, 67208
(685-8231)
42 M 1902 68 FP
Moy, James T., 3028 E. 2nd, 67214
(682-1392)
14 M 4102 40 IM
Mueller, Vernette A., 1431 S. Bluffview, 67218
(684-3981)
17 M 2802 41 OBG
*Mullinix, Janice M., 3243 E. Murdock, 67208
(685-2377)
47 F 3006 73 N
*Murphy, Barry L., 3333 E. Central, 67208
(684-0251)
45 M 1902 71 IM
Murphy, Duane A., 3243 E. Murdock, 67208
(685-1491)
32 M 1902 65 ORS
Murphy, Paul M., 3600 E. Harry, 67218
(685-1111)
28 M 3006 51 R
*Negron, Angel G., 3244 E. Douglas, 67208
(689-9369)
45 M 4201 70
Nelson, Gerald D., 825 N. Emporia, 67214
(262-3495)
34 M 1902 60 PS
Nelson, Gust H., Jr., 3600 E. Harry, 67218
(685-1111)
23 M 1902 46 DR
Nelson, Russell A., 3333 E. Central, 67208
(682-5523)
18 M 1902 45 PD
Nesmith, Leslie W., 3333 E. Central, 67208
(683-5611)
40 M 1902 66 OPH
Newby, James P., 905 N. Emporia, 67214
(263-0296)
34 M 1902 59 TS
Newsom, F. Carter, 3310 E. Douglas, 67208
(685-1443)
18 M 1201 43 P
Nixon, William A., 3333 E. Central, 67208
(683-6622)
16 M 1902 44 GS
*Norris, Rebecca M., 3244 E. Douglas, 67208
(689-9385)
42 F 1611 70 IM
Norris, Robert P., 3244 E. Douglas, 67208
(689-9232)
17 M 1902 43 IM
North, Doris G., 1148 S. Hillside, 67211
(684-5257)
16 F 1902 47 FP
North, Victor, 1148 S. Hillside, 67211
(684-5257)
18 M 1902 47 FP
Norton, Robert K., 3244 E. Douglas, 67208
(689-9235)
32 M 1001 57 PD
*Nowlin, Nancy S., WSU Branch, KUMS, 67214
(268-8378)
47 F 1902 74 IM
Nyberg, Fredrik F., 3333 E. Central, 67208
(682-6511)
22 M 2101 46 GYN
Ochsner, Bruce B., 1035 N. Emporia, 67214
(263-6273)
39 M 1902 65 OPH
*Odenheimer, Burtram J., 3244 E. Douglas, 67208
(689-9137)
48 M 2105 73 N
O'Donnell, Leonard A., Jr., 8033 E. Douglas, 67207
(684-2835)
27 M 1902 55 CD
O'Donnell, Leonard A., 8033 E. Douglas, 67207
(684-2781)
02 M 5606 26 IM
Osborne, Conrad C., 855 N. Hillside, 67214
(685-1381)
38 M 1902 67 FP

Osio, Antonio L., 1520 S. Clifton, 67218
(685-2371)
41 M 26404 65 EM
Osoba, William G., 2525 W. 13th, 67203
(943-9391)
25 M 2802 51 FP
Owen, LaRue W., 303 S. Hillside 67211
(684-7251)
19 M 1902 50 ANES
Owen, Pere A., 303 S. Hillside 67211
(684-7251)
37 M 1902 64 ANES
Padgett, William L., 841 S. Hillside, 67211
(683-7503)
24 M 1902 51 FP
Page, Ruth, 1148 S. Hillside, 67211
(684-0255)
13 F 1902 43 IM
Palmer, David L., 911 N. Hillside, 67214
(686-7161)
37 M 1902 63 PATH
Parker, Harold L., 925 N. Emporia, 67214
(263-3765)
32 M 1902 67 FP
Parmley, Charles C., 5025 E. Kellogg, 67218
(682-1534)
18 M 1902 44 GS
*Peery, William H., 5500 E. Kellogg, 67218
(685-2221)
46 M 4802 73 IM
*Pence, Charles D., 3244 E. Douglas, 67208
(689-9175)
42 M 1902 68 ORS
Pennington, Katherine, 3333 E. Central, 67208
(682-5432)
16 F 1902 43 PD
Peters, Dale W., 434 N. Oliver, 67208
(682-9241)
21 M 1902 45 P
*Petersen, Christine D., 3333 E. Central, 67208
(683-2681)
46 F 702 71 IM
Phipps, Jack G., 315 N. Hillside, 67214
(686-3391)
21 M 1902 53 FP
Pinsker, Jacob A., 1035 N. Emporia, 67214
(267-8259)
06 M 1902 35 IM
Podrebarac, Leonard F., 1035 N. Emporia, 67214
(263-3143)
24 M 3006 53 FP
Poling, Terry L., 6155 E. Harry, 67218
(685-2306)
36 M 1902 62 FP
*Pollock, Anthony G. A., 1035 N. Emporia, 67214
(265-1631)
45 M 80305 71 ORS
Poole, Bernard T., 1035 N. Emporia, 67214
(264-2806)
37 M 53902 62 ORS
Porter, Garry L., 507 W. Volutsia, 67214
(686-7351)
35 M 1606 61 P
Powers, Kenneth D., 2703 E. Central, 67214
(685-1277)
23 M 1902 47 OBG
Prieto, Luis E., 1111 N. St. Francis, 67214
(265-2613)
39 M 26404 65 IM
Pullman, Norman K., 3007 E. Central, 67214
(686-7369)
21 M 3006 45 PS
Purinton, Lew W., 1431 S. Bluffview Dr., 67218
(685-1301)
23 M 1902 48 IM
Purves, Robert K., 37 Mission 67206
(682-8687)
18 M 1606 43 GS
Putnam, Lyle B., 959 N. Emporia, 67214
(262-5037)
11 M 1902 36 FP
Radovanov, Radmila, 337 Rutland Rd., 67206
(283-1160)
34 F 95702 60 R
*Rahbar, Al A., 905 N. Emporia, 67214
(263-0296)
43 M 2501 69 TS
Rahman, Hafiz M. A., 4710 E. Pawnee, 67218
(682-6814)
35 M 70401 58 P
*Randall, George R., 5205 E. 21st, 67208
(684-2838)
43 M 2802 69 OTO
Randles, Michael J., 959 N. Emporia, 67214
(265-1789)
48 M 1902 73 IM (Res)
*Rausa, Francisco C., Jr., 2723 Blvd. Plaza, 67211
(683-4658)
42 M 74810 66 GE
Rawcliffe, Robert A., Jr., 925 N. Emporia, 67214
(262-3476)
29 M 3501 55 ORS
*Razek, M. Zack A., 905 N. Emporia, 67214
(263-0296)
46 M 60501 70 TS
Reals, William J., 3600 E. Harry, 67218
(686-9432)
20 M 3006 45 PATH
Reazin, Walter L., 855 N. Hillside, 67214
(685-1381)
30 M 1902 58 FP
Reed, A. J., 1520 S. Clifton, 67218
(685-2371)
40 M 3901 65 EM
Reed, D. Cramer, KUMC-Wichita, 67214
(268-8202)
15 M 2802 41 ADM
Reed, David D., 3333 E. Central, 67208
(685-1291)
43 M 1902 69 DR
Reeves, Bradford F., 3333 E. Central, 67208
(685-1291)
37 M 4812 62 R
Relihan, Donald A., 3333 E. Central, 67208
(684-5158)
27 M 1902 54 OPH

Rempel, John H., 3333 E. Central, 67208
(685-1812)
38 M 3901 62 PS
*Rennebohm, Robert M., WSU Branch, KUMS, 67214
(268-8302)
47 M 502 72 PD
Rhoads, James P., 3244 E. Douglas, 67208
(689-9325)
34 M 3520 60 IM
Rhoden, Curtis H., 3243 E. Murdock, 67208
(684-0252)
33 M 1803 59 IM
Rhodes, Ivan E., 3333 E. Central, 67208
(685-1291)
25 M 3901 49 R
Rhodes, Lowell M., 315 N. Hillside, 67214
(685-1461)
25 M 1902 53 FP
Richardson, Stewart F., 3420 E. Douglas, 67208
(685-2321)
28 M 3005 54 P
Rieger, Ernest H., 3243 E. Murdock, 67208
(682-4591)
29 M 1902 56 TS
Riordan, Hugh D., 434 N. Oliver, 67208
(682-9241)
32 M 5605 57 P
Roberts, Daniel K., 3333 E. Central, 67208
(682-9141)
36 M 3005 61 OBG
Roberts, Louis S., 115 S. Rutan, 67218
(686-1104)
95 M 2834 20 OO
Robertson, Joseph K., 905 N. Emporia, 67214
(263-0296)
41 M 3901 66 GS
Robinson, G. Donald, 3333 E. Central, 67208
(686-6659)
28 M 1902 54 PD
Robinson, John E., 507 N. Volutsia, 67214
(686-7351)
32 M 6201 50 P
Robinson, Robert H., 3244 E. Douglas, 67208
(689-9445)
20 M 1902 53 ANES
Romalis, Brian E., 3420 E. Douglas, 67208
(682-5069)
39 M 6201 63 P
Rose, Shelby D., 3333 E. Central, 67208
(681-2741)
40 M 2012 68 PATH
Rosenberg, Thomas F., 611 N. Hillside 67214
(684-0501)
41 M 1642 68 A
Russell, Philip W., 3244 E. Douglas, 67208
(689-9351)
22 M 1902 44 IM
Sabin, George M. Jr., 321 N. Topeka, 67202
(265-6601)
12 M 5002 39 ADM
Sadiq, Suleman, 1111 N. St. Francis, 67214
(265-2613)
40 M 70401 63 TS
Saeed, Mohammad A., 1520 S. Clifton, 67218
(685-2371)
42 M 70404 66 IM
*Salgado, Carlos R., 1111 N. St. Francis, 67214
(265-2613)
33 M 13201 55 CD
Santoscoy, Gilbert S., 3244 E. Douglas, 67208
(689-9315)
38 M 4812 62 S
Schiltz, Frances H., 115 S. Rutan, 67218
(683-4978)
93 F 6701 23 OO
Schlachter, Ernest R., 406 E. Central, 67202
(265-0705)
24 M 1902 52 FP
Schlicher, John E., 3244 E. Douglas, 67208
(689-9346)
40 M 1803 66 D
Schlueter, John J., 3333 E. Central, 67208
(685-9289)
31 M 3841 56 R
*Schnelle, Joachim, 4145 E. Kellogg, 67218
(682-0621)
44 M 40933 70 FP
Schopf, Clifton C., 925 N. Emporia, 67214
(262-3765)
29 M 1902 57 FP
Schulz, Millard E., 841 N. Broadway, 67214
(263-6131)
12 M 1902 45 FP
Schwartz, V. Dean, 400 N. Woodlawn, 67208
(684-3881)
24 M 1902 48 FP
Scott, Vincent L., 72 Mission Rd., 67207
(683-4024)
03 M 3806 29 OO
Scott, William H., 3600 E. Harry, 67218
(685-1111)
41 M 4901 65 CD
Shafer, Preston J., 3333 E. Central, 67208
(682-6511)
20 M 3005 46 OBG
Shaw, James W., 150 S. Battin, 67218
(683-0531)
98 M 1601 27 OO
Shaw, Richard C., 825 N. Emporia, 67214
(262-3495)
35 M 1902 61 PS
Shellito, John G., 3244 E. Douglas, 67208
(689-9124)
18 M 1606 43 TS
Shiflet, Albert W., 841 N. Broadway, 67214
(263-6131)
06 M 3901 33 OO
Shrader, Doyle A., 3333 E. Central, 67208
(682-4851)
16 M 1902 41 EENT
Siegel, Albert R., 3600 E. Harry, 67218
(685-1111)
22 M 1642 47 PM
Sifford, R. Lawrence, 959 N. Emporia, 67214
(265-0561)
25 M 1803 52 IM

Silverman, Mervyn F., 1900 E. 9th, 67214
(268-8391)
38 M 2101 64 GPM
Skibba, Richard M., 3244 E. Douglas, 67208
(689-9477)
43 M 5606 70 GE
Sleeper, Carol A., 3244 E. Douglas, 67208
(689-9275)
33 F 1902 58 PATH
Sleeper, Donald C., 808 N. Emporia, 67214
(265-1684)
32 M 1902 58 R
Smith, Alvin L., St. Francis Hospital, 67214
(262-6211)
28 M 5606 57 PATH
Smith, Erma A., 120 N. Kansas, 67214
(265-8055)
95 F 1601 33 OO
Smith, Willard J., Jr., 851 N. Hillside, 67214
(685-1371)
32 M 1611 57 U
Snyder, Gregg M., 3243 E. Murdock, 67208
(685-2377)
27 M 1803 54 NS
Solomon, Herman, 835 N. Hillside, 67214
(685-4395)
37 M 2701 62 D
*Soltz, Robert A., 3244 E. Douglas, 67208
(689-9442)
47 M 2803 74 PD
Somers, Marvin M., 929 N. St. Francis, 67214
(262-6211)
23 M 1902 48 R
Spann, Richard W., 3333 E. Central, 67208
(684-0252)
40 M 1902 65 PUD
Stark, James R., 3244 E. Douglas, 67208
(689-9422)
20 M 1902 44 R
Stein, Paul S., 3243 E. Murdock, 67208
(685-2377)
40 M 3305 66 NS
Stewart, Jack T., 4815 E. Central, 67208
(683-8401)
30 M 2802 57 IM
Stolz, Elmer G., 425 E. Murdock, 67214
(265-6287)
17 M 3006 45 FP
Stoskopf, Lawrence E., 3333 E. Central, 67208
(685-4389)
39 M 1902 67 ANES
Street, David E., 905 N. Emporia, 67214
(263-0296)
35 M 2101 61 GS
Sullivan, Cornelius J. P., 1431 Bluffview Dr., 67218
(685-4851)
18 M 3509 43 OBG
Sullivan, Leonard L., 3244 E. Douglas, 67208
(689-9454)
35 M 1902 61 PD
Swisher, William C., 5025 E. Kellogg, 67218
(682-1534)
21 M 1902 47 OBG

Taylor, Richard J., 929 N. St. Francis, 67214
(262-1952)
21 M 3006 49 PATH
Thelen, Christine, 212 Bitting Bldg., 67202
(267-3936)
13 F 5104 37 OBG
Thompson, Daniel M., 118 E. 21st, 67214
(838-3381)
19 M 1902 50 FP
Throckmorton, Marion A., 1035 N. Emporia, 67214
(263-8365)
23 M 1902 47 FP
Tihen, Edward N., 3244 E. Douglas, 67208
(689-9481)
24 M 1606 48 IM
Tihen, Henry N., 1227 N. River Blvd., 67203
(262-1002)
96 M 1601 19 OO
Tiller, George R., 5101 E. Kellogg, 67218
(684-5255)
41 M 1902 67 AM
Tilton, Frank M., 3244 E. Douglas, 67208
(689-9137)
33 M 2002 59 N
Tinker, Robert C., 1126 S. Clifton, 67218
(682-7578)
31 M 2834 57 ORS
Tinterow, Maurice M., 3333 E. Central, 67208
(685-4389)
17 M 4802 41 ANES
Tippin, Ernest E., Jr., 959 N. Emporia, 67214
(265-5256)
24 M 1902 50 OTO
Tocker, Alfred M., 1111 N. St. Francis, 67214
(265-2613)
15 M 4802 40 TS
Tocker, Lilia Rodriguez, 1111 N. St. Francis, 67214
(265-2613)
21 F 27501 49 CD
Tonn, Gerhart R., 855 N. Hillside, 67214
(685-1381)
16 M 1902 44 FP
Tracy, Terry A., 3333 E. Central, 67208
(686-7301)
35 M 2803 61 OBG
Trees, Donald P., 1631 E. Zimmerly, 67211
(265-0930)
14 M 4101 39 OO
Tretbar, Harvey A., 3243 E. Murdock, 67208
(684-0251)
25 M 1902 52 IM
Uhlig, Paul J., 3244 E. Douglas, 67208
(689-9191)
28 M 1902 57 PD
VanDerVliet, Stephen K., 3244 E. Douglas, 67208
(689-9326)
42 M 1606 68 OPH
VinZant, Larry E., 1431 Bluffview, 67218
(682-6532)
10 M 1902 40 GS
*VinZant, Whitney L., 1431 Bluffview Dr., 67218
(686-1991)
45 M 1902 71 GS

Vorhees, Victor J., 3243 E. Murdock, 67208
(685-8231)
36 M 1902 68 FP
Voth, Douglas W., WSU Branch, KUMS, 67214
(268-8378)
34 M 1902 59 IM
*Wadud, Abdul, 120 N. Oliver, 67214
(683-9021)
35 M 70409 60 P
Wallace, Robert W., 303 S. Hillside, 67211
(684-7251)
28 M 3006 53 ANES
*Walsh, Richard A., WSU Branch, KUMS, 67214
(268-8224)
25 M 3519 48 ADM
Warren, John W., Jr., 3244 E. Douglas, 67208
(689-9239)
15 M 2501 39 U
Warren, Lloyd P., 5205 E. 21st, 67208
(683-7223)
11 M 1902 36 OPH
Warren, Wirt A., 352 N. Broadway, 67202
(267-5031)
09 M 2802 33 CLG
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(265-7241)
16 M 2802 42 OPH
Weaver, J. Robert, 959 N. Emporia, 67214
(265-5731)
21 M 1902 48 FP
Weber, Hugo P., Jr., 1035 N. Emporia, 67214
(263-7285)
40 M 702 66 IM
Wedin, Paul H., 3600 E. Harry, 67218
(685-1111)
08 M 1902 38 ADM
Weippert, Edward J., 1301 N. West, 67203
(943-3271)
44 M 1902 70 FP
Welch, Lauren K., 3243 E. Murdock, 67208
(685-2377)
35 M 1902 61 N
*Welch, Martin H., 5500 E. Kellogg, 67218
(685-2221)
36 M 5605 61 IM
Wellshear, Charles C., 3101 E. 9th, 67214
(684-0201)
30 M 4706 58 P
Weninger, John H., 1148 S. Hillside, 67211
(682-6523)
32 M 3005 62 FP
West, Ray A., 101 S. Byron, 67209
(684-1130)
92 M 1601 19 OO
West, William T., 3244 E. Douglas, 67208
(689-9234)
24 M 1902 49 OBG
Whallon, Jacob T., 445 N. Dellrose, 67208
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14 M 1720 41 IM
Wheeler, Pinckney R., 2208 W. 13th, 67203
(943-2118)
18 M 3901 56 FP
White, Charles M., 3244 E. Douglas, 67208
(689-9422)
15 M 3005 41 R
Wilchins, Lawrence J., 9235 W. Central, 67212
(722-1129)
24 M 3607 47 GS
Wilder, Lowell W., 3333 E. Central, 67208
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35 M 4109 62 OPH
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16 M 2834 43 IM
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(265-1684)
34 M 3545 58 TR
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12 M 1902 42 FP
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(689-9169)
17 M 3005 43 RHU
*Witter, Robert L., V.A. Hosp., 67218
(685-2221)
25 M 2604 55 FP
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10 M 2834 38 OO
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36 M 3508 66 RHU
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21 M 2802 45 IM
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15 M 1606 41 OBG
Woodhouse, Charles L., 959 N. Emporia, 67214
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10 M 1902 34 OTO
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(838-4912)
20 M 1902 49 FP
*Youngberg, Dean I., 2916 E. Central, 67214
(684-5243)
46 M 1902 72 IM
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(262-6211)
45 M 1611 69 R
Zimmerman, Kenneth D., 934 Crestline, 67212
(687-3925)
29 M 3901 55 OM
Zongker, Philip E., 3244 E. Douglas, 67208
(689-9422)
43 M 1902 70 R

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(Central Kansas Society)

Dlabal, Frank A., 67490
(658-2400)
07 M 1902 45 FP

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(Jefferson County Society)

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06 M 1601 34 FP
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97 M 1902 27 OO

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42 M 49535 65 GS
Brown, Harwin J., 1317 Wheat Road, 67156
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09 M 5605 35 ANES
Carro, Francisco A., Snyder Clinic, 67156
(221-3200)
23 M 27501 48 FP
Cudnik, Daniel B., 5 Terrace Dr., 67156
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42 M 5606 68 GS
Daehnke, Sigurd S., Snyder Clinic, 67156
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26 M 3005 60 FP
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31 M 1902 57 FP
Hoyle, Winthrop E., Snyder Clinic, 67156
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Kaufman, Leland R., 221 W. 8th, 67156
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33 M 1902 61 FP
Kaul, Anand N., 5 Sharon Acres, 67156
(221-3200)
39 M 49530 61 IM
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44 M 58304 69 IM
MacKillop, Daniel, Jr., 4 Fleetwood Dr., 67156
(221-3200)
11 M 2407 38 OO
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02 M 2401 27 IM
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(221-6100)
35 M 49527 59 GS
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(221-3200)
03 M 4102 27 GS, TS
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97 M 1902 37 OO
Wells, Bruce W., 221 W. 8th, 67156
(221-3350)
39 M 1902 64 IM
Wells, Max W., 221 W. 8th, 67156
(221-3350)
12 M 1902 36 FP
White, R. Burnley, 117 W. 9th, 67156
(221-2950)
24 M 1902 52 FP
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(221-6100)
27 M 1902 53 GS

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35 M 3901 61 FP

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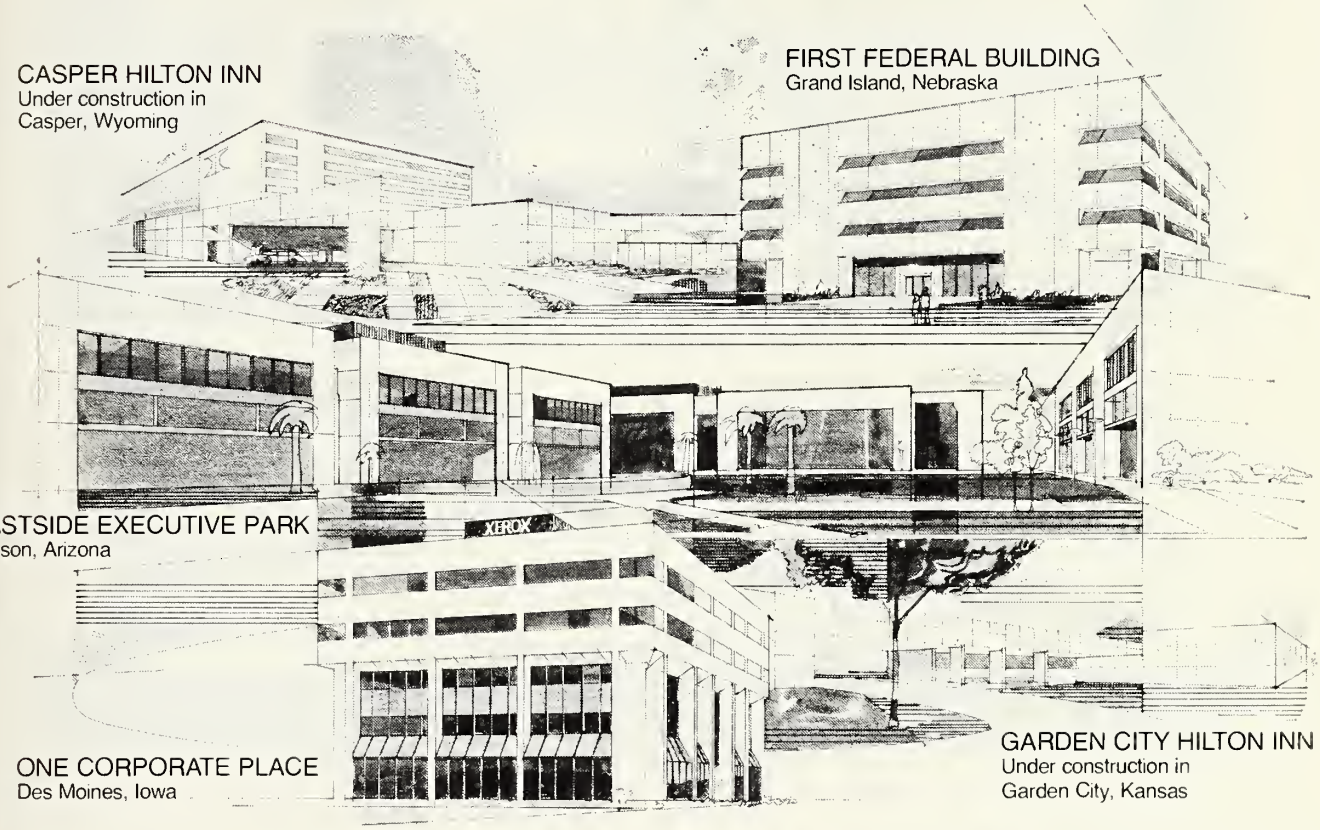

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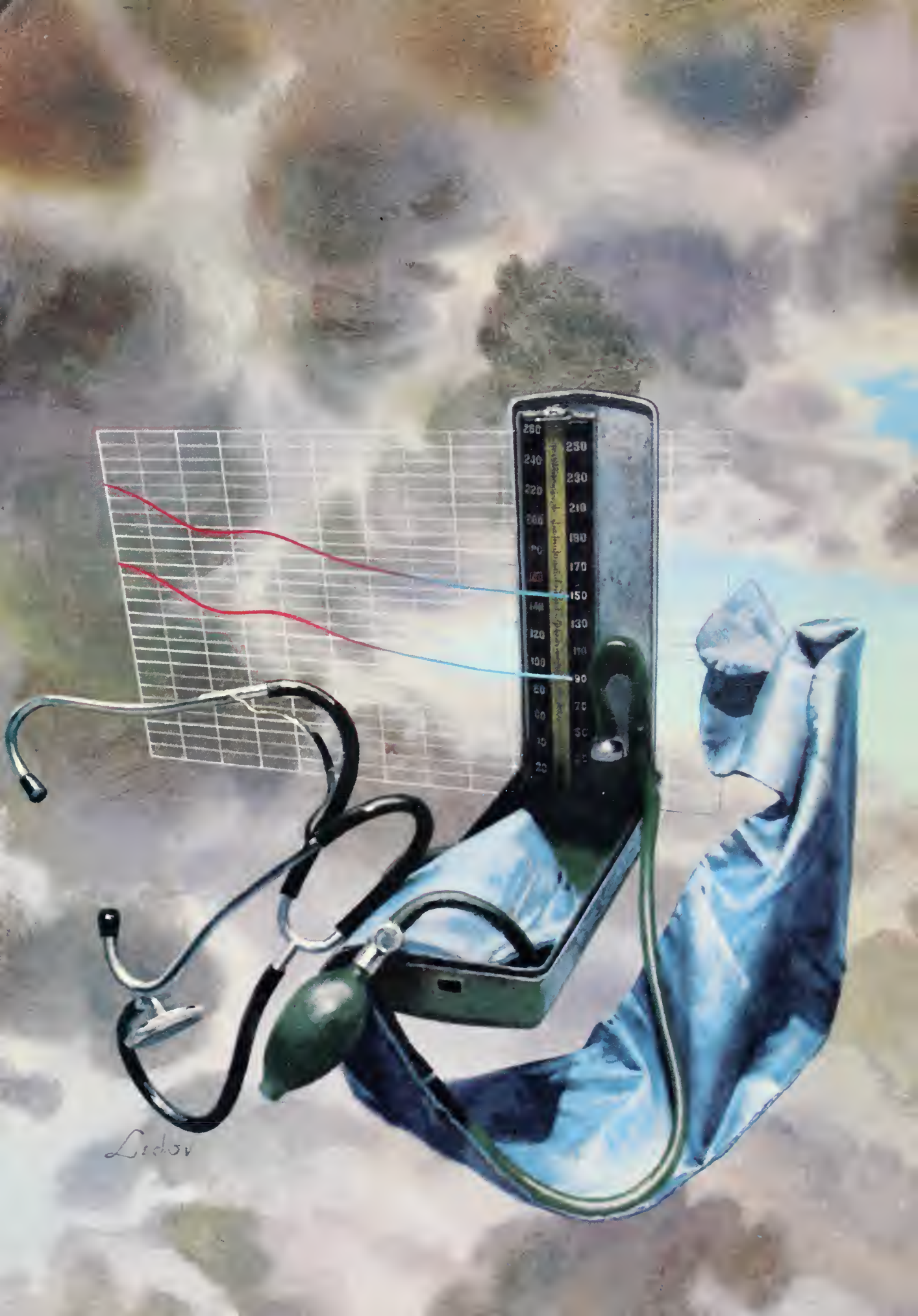
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References:

1. Dornfeld L, Kane R: Metolazone in essential hypertension. The long-term clinical efficacy of a new diuretic. *Curr Ther Res* **18**: 527-533, 1975.
2. Data on file, Medical Department, Pennwalt Prescription Products.

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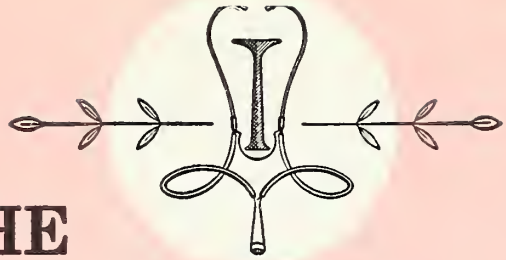

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CHOLOXIN (sodium dextrothyroxine) lowers cholesterol 15% to 35%, and keeps it down with most patients. *(Data on file, Flint Laboratories).*

Interested in receiving more information about lipid lowering? Write us or contact your Flint representative. We'll be glad to supply you with a complete product portfolio and samples for your evaluation.

NOTE: See following page for full prescribing information.

AN IMPORTANT NOTE:
It has not been established whether the drug-induced lowering of serum cholesterol or lipid levels has a detrimental, beneficial, or no effect on the morbidity or mortality due to atherosclerosis or coronary heart disease. Several years will be required before current investigations will yield an answer to this question.

FLINT LABORATORIES
DIVISION OF TRAVENOL LABORATORIES, INC.
Deerfield, Illinois 60015

Choloxin® (Sodium Dextrothyroxine)

Effectively Lowers Elevated Cholesterol With Convenient Once-A-Day Dosage

Four strengths 1, 2, 4, and 6 mg are available making the scored tablet regimen a flexible dosage system. And, for most patients, CHOLOXIN tablets offer once-a-day dosage.

CHOLOXIN® (sodium dextrothyroxine) Single-Tablet-A-Day Dosage Schedules

See prescribing information in package insert reproduced below.

	Starting Dosage	Increased Monthly by	Usual Maintenance	Maximal Recommended
Adult Hypercholesterolemic	1.0-2.0 mg.	1.0-2.0 mg.	4.0-8.0 mg.	4.0-8.0 mg.
Pediatric Hypercholesterolemic	0.05 mg./kg. body weight	0.05 mg./kg.	0.1 mg./kg. body weight	4.0 mg.
Hypothyroid Cardiac	1.0 mg.	1.0 mg.	4.0 mg.	4.0 mg.

Choloxin®
(Sodium Dextrothyroxine)

Description

CHOLOXIN (sodium dextrothyroxine) is the sodium salt of the dextrorotatory isomer of thyroxine. It is chemically described as D-3,5,3′,5′-tetraiodothyronine sodium salt.

Actions

The predominant effect of CHOLOXIN (sodium dextrothyroxine) is the reduction of serum cholesterol levels in hyperlipidemic patients. Beta lipoprotein and triglyceride fractions may also be reduced from previously elevated levels.

Most of the available evidence indicates that CHOLOXIN (sodium dextrothyroxine) stimulates the liver to increase catabolism and excretion of cholesterol and its degradation products via the biliary route into the feces. Cholesterol synthesis is not inhibited and abnormal metabolic end-products do not accumulate in the blood.

Indications

This is not an innocuous drug. Strict attention should be paid to the indications and contraindications.

CHOLOXIN (sodium dextrothyroxine) is an antilipidemic agent used as an adjunct to diet and other measures for the reduction of elevated serum cholesterol (low density lipoproteins) in euthyroid patients with no known evidence of organic heart disease.

The drug is also indicated in the treatment of hypothyroidism in patients with cardiac disease who cannot tolerate other types of thyroid medication.

Before prescribing, note the following: Results from a randomized clinical study have indicated a possible adverse effect when CHOLOXIN (sodium dextrothyroxine) is administered to a patient receiving a digitalis preparation. There may be an additive effect. This additive effect may possibly stimulate the myocardium excessively, in patients with significant myocardial impairment. CHOLOXIN (sodium dextrothyroxine) dosage should not exceed 4 mg per day when the patient is receiving a digitalis preparation concomitantly. Careful monitoring of the total effect of both drugs is important.

It has not been established whether the drug-induced lowering of serum cholesterol or lipid levels has a detrimental, beneficial, or no effect on the morbidity or mortality due to atherosclerosis or coronary heart disease. Several years will be required before current investigations will yield an answer to this question.

Contraindications

The administration of CHOLOXIN (sodium dextrothyroxine) to euthyroid patients with one or more of the following conditions is contraindicated:

1. Known organic heart disease, including angina pectoris; history of myocardial infarction; cardiac arrhythmia or tachycardia, either active or in patients with demonstrated propensity for arrhythmias; rheumatic heart disease; history of congestive heart failure; and decompensated or borderline compensated cardiac status.
2. Hypertensive states (other than mild, labile systolic hypertension).
3. Advanced liver or kidney disease.
4. Pregnancy.
5. Nursing mothers.
6. History of iodism.

Warnings

CHOLOXIN (sodium dextrothyroxine) may potentiate the effects of anticoagulants on prothrombin time. Reductions of anticoagulant dosage by as much as 30% have been required in some patients. Consequently, the dosage of anticoagulants should be reduced by one-third upon initiation of CHOLOXIN therapy and the dosage subsequently readjusted on the basis of prothrombin time. The prothrombin time of patients receiving anticoagulant therapy concomitantly with CHOLOXIN therapy should be observed as frequently as necessary, but at least weekly, during the first few weeks of treatment.

In the surgical patient, it is wise to consider withdrawal of the drug two weeks prior to surgery if the use of anticoagulants during surgery is contemplated.

When CHOLOXIN (sodium dextrothyroxine) is used as thyroid replacement therapy in hypothyroid patients with concomitant coronary artery disease (especially those with a history of angina pectoris or myocardial infarction) or other cardiac disease, treatment should be initiated with care. Special consideration of the dosage schedule of CHOLOXIN (sodium dextrothyroxine) is required. This drug may increase the oxygen requirements of the myocardium, especially at high dosage levels. Treated subjects with coronary artery disease must be seen at frequent intervals. If aggravation of angina or increased myocardial ischemia, cardiac failure, or clinically significant arrhythmia develops during the treatment of hypothyroid patients, the dosage should be reduced or the drug discontinued.

Special consideration must be given to the dosage of other thyroid medications used concomitantly with CHOLOXIN (sodium dextrothyroxine). As with all thyroactive drugs, hypothyroid patients are more sensitive to a given dose of CHOLOXIN (sodium dextrothyroxine) than euthyroid patients.

Epinephrine injection in patients with coronary artery disease may precipitate an episode of coronary insufficiency. This condition may be enhanced in patients receiving thyroid analogues. These phenomena should be kept in mind when catecholamine injections are required in sodium dextrothyroxine-treated patients with coronary artery disease.

Since the possibility of precipitating cardiac arrhythmias during surgery may be greater in patients treated with thyroid hormones, it may be wise to discontinue CHOLOXIN (sodium dextrothyroxine) in euthyroid patients at least two weeks prior to an elective operation. During emergency surgery in euthyroid patients, and in surgery in hypothyroid patients in whom it may not be advisable or possible to withdraw therapy, the patients should be carefully observed.

There are reports that sodium dextrothyroxine in diabetic patients is capable of increasing blood sugar levels with a resultant increase in requirements of insulin or oral hypoglycemic agents. Special attention should be paid to parameters necessary for good control of the diabetic state in dextrothyroxine-treated subjects and to dosage requirements of insulin or other antidiabetic drugs. If sodium dextrothyroxine is later withdrawn from patients who had required an increase of insulin (or oral hypoglycemic agents) dosage during its administration, the dosage of antidiabetic drugs should be reduced and adjusted to maintain good control of the diabetic state.

When either or both impaired liver or kidney function are present, the advantages of CHOLOXIN (sodium dextrothyroxine) therapy must be weighed against the possibility of deleterious results.

Usage in Women of Childbearing Age

Women of childbearing age with familial hypercholesterolemia or hyperlipemia should not be deprived of the use of this drug; it can be given to those patients exercising strict birth control procedures. Since pregnancy may occur despite the use of birth control procedures, administration of CHOLOXIN (sodium dextrothyroxine) to women of this age group should be undertaken only after weighing the possible risk to the fetus against the possible benefits to the mother. Teratogenic studies in two animal species have resulted in no abnormalities in the offspring.

Precautions

It is expected that patients on dextrothyroxine therapy will show greatly increased serum protein-bound-iodine levels. These increased serum PBI values are evidence of absorption and transport of the drug, and should NOT be interpreted as evidence of hypermetabolism; similarly, they may not be used for titrating the effective dose of CHOLOXIN (sodium dextrothyroxine). PBI values in the range of 10 to 25 mcg% in treated patients are common.

If signs or symptoms of iodism develop during CHOLOXIN (sodium dextrothyroxine) therapy, the drug should be discontinued.

A few children with familial hypercholesterolemia have been treated with CHOLOXIN for periods of one year or longer with no adverse effects on growth. However, it is recommended that the drug be continued in patients in this age group only if a significant serum cholesterol-lowering effect is observed.

Adverse Reactions

The side effects attributed to dextrothyroxine therapy are, for the most part, due to increased metabolism, and may be minimized by following the recommended dosage schedule. Adverse effects are least commonly seen in euthyroid patients with no signs or symptoms of organic heart disease; the incidence of adverse effects is increased in hypothyroid patients, and is highest in those patients with organic heart disease superimposed on the hypothyroid state.

In the absence of known organic heart disease, some cardiac changes may be precipitated during sodium dextrothyroxine therapy. In addition to angina pectoris, arrhythmia consisting of extrasystoles, ectopic beats, or supraventricular tachycardia, ECG evidence of ischemic myocardial changes and increase in heart size have been observed. Myocardial infarctions, both fatal and non-fatal, have occurred, but these are not unexpected in untreated patients in the age groups studied. It is not known whether any of these infarcts were drug related.

Changes in clinical status that may be related to the metabolic action of the drug include the development of insomnia, nervousness, palpitations, tremors, loss of weight, lid lag, sweating, flushing, hyperthermia, hair loss, diuresis, and menstrual irregularities. Gastrointestinal complaints during therapy have included dyspepsia, nausea and vomiting, constipation, diarrhea, and decrease in appetite.

Other side effects reported to be associated with CHOLOXIN (sodium dextrothyroxine) therapy include the development of headache, changes in libido (increase or decrease), hoarseness, tinnitus, dizziness, peripheral edema, malaise, tiredness, visual disturbances, psychic changes, paresthesia, muscle pain, and various bizarre subjective complaints. Skin rashes, including a few which appeared to be due to iodism, and itching have been attributed to dextrothyroxine by some investigators. Gallstones have been discovered in occasional dextrothyroxine-treated patients and cholestatic jaundice has occurred in one patient, although its relationship to CHOLOXIN therapy was not established.

In several instances, the previously existing conditions of the patient appeared to continue or progress during the administration of CHOLOXIN (sodium dextrothyroxine); a worsening of peripheral vascular disease, sensorium, exophthalmos, and retinopathy have been reported.

CHOLOXIN (sodium dextrothyroxine) potentiates the effects of anticoagulants, such as warfarin or Dicumarol, on prothrombin time, thus indicating a decrease in the dosage requirements of the anticoagulants. On the other hand, dosage requirements of antidiabetic drugs have been reported to be increased during dextrothyroxine therapy (see WARNINGS section).

Dosage and Administration

For **adult** euthyroid hypercholesterolemic patients, the recommended maintenance dose of CHOLOXIN (sodium dextrothyroxine) is 4 to 8 mg per day. The initial daily dose should be 1 to 2 mg to be increased in 1 to 2 mg increments at intervals of not less than one month to a maximum level of 4 to 8 mg daily, if that dosage level is indicated to effect the desired lowering of serum cholesterol.

When used as partial or complete substitution therapy for levothyroxine in hypothyroid patients with cardiac disease who cannot tolerate other types of thyroid medication, the initial daily dose should be 1 mg to be increased in 1 mg increments at intervals of not less than one month to a maximum level of 4 to 8 mg daily, preferably the lower dosage. The maximum in patients receiving digitalis therapy is 4 mg.

For **pediatric** hypercholesterolemic patients, the recommended maintenance dose of CHOLOXIN (sodium dextrothyroxine) is approximately **0.1** mg (100 mcg) per kilogram. The initial daily dosage should be approximately **0.05** mg (50 mcg) per kilogram to be increased in up to 0.05 mg (50 mcg) per kilogram increments at monthly intervals. The recommended maximal dose is 4 mg daily, if that dosage is indicated to effect the desired lowering of serum cholesterol.

If new signs or symptoms of cardiac disease develop during the treatment period, the drug should be withdrawn.

How Supplied

CHOLOXIN (sodium dextrothyroxine) is supplied in prescription packages of scored 1, 2, 4, and 6 mg tablets.

FLINT LABORATORIES
DIVISION OF TRAVENOL LABORATORIES, INC.
Deerfield, Illinois 60015

Compliments

of

MUNNS MEDICAL SUPPLY

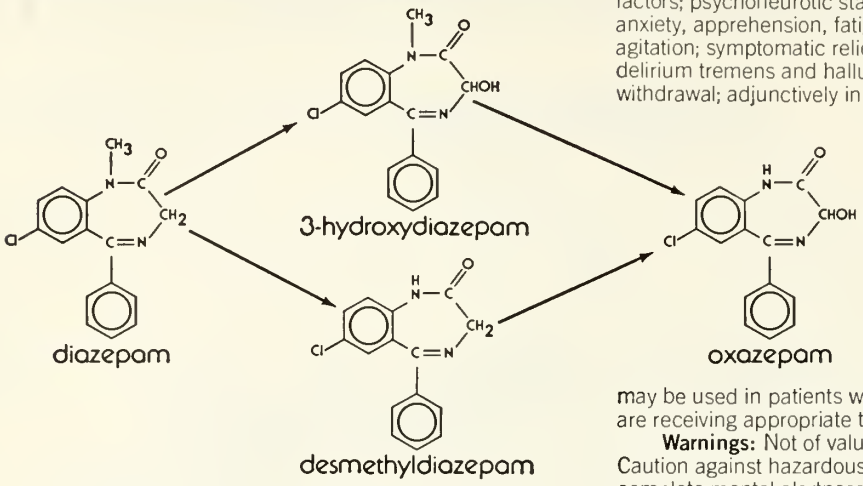
MUNNS MEDICAL SUPPLY

OVER 30 YEARS SERVICE

TOPEKA • K.C. • WICHITA

ST. LOUIS • TULSA

A pharmacokinetic character all its own



Valium (diazepam) is a benzodiazepine with a distinctive pharmacokinetic profile

The pharmacokinetic profile of Valium is one of the characteristics that sets it apart from other benzodiazepines. Consider, in particular, the metabolic pathway of Valium. The three major metabolites of Valium exhibit significant pharmacologic activity—and so, of course, does the parent substance—diazepam itself. All combine to produce the characteristic clinical response seen with Valium. The response you have come to know, to want and to trust.

Pharmacokinetic studies also demonstrate that Valium has a pattern of absorption, distribution, metabolism and elimination that is reliable and consistent. And, although the pharmacokinetics of a drug cannot, at present, be specifically related to its clinical effects, it is clearly a factor that distinguishes one product from another by providing important insights into how each moves through the patient's body.

Valium® (diazepam) IV

2-mg, 5-mg, 10-mg scored tablets

a prudent choice in psychic tension and anxiety

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome; convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

Usage in Pregnancy: **Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

ROCHE

Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

Auxiliary News

Mesdames William Crouch, John Huff, Warren Meyer, Clair Cavanaugh, and Dean Burnett, delegates, were among 21 Kansas members registered for the AMA Auxiliary Convention in San Francisco, June 19-22. The fall issue of *Communique,* KMSA quarterly publication, will carry reports of speeches delivered by HEW Secretary Califano, William F. Buckley, Jr., Dr. Sabin, and others.

The highlight of the convention for Kansans was the installation of Mrs. Chester Young as President of the AMA Auxiliary. Installing officer Mrs. Leo Schaefer of Salina, past president of the national auxiliary, administered the oath of office to Mrs. Young and installed the officers with dignity and an appropriate bit of humor. The Kansas Auxiliary President briefly recognized Mrs. Young's support of the Kansas Auxiliary and presented a gift. An award from Governor Robert Bennett was presented by Mrs. Cavanaugh; and Dr. John Huff, with a gift and the traditional kiss, extended congratulations from the Kansas Medical Society. Forty-five Kansans were present to express their support and pride. Following the installation, the Kansas Auxiliary gave a reception for the new President and her Board.

Mrs. Young and Dr. John H. Budd, newly installed AMA President, were also honored at a reception in the Fairmont Hotel given by the Ohio and Kansas Medical Societies. The presence and support of the Kansas physicians during these special events are appreciated by the Auxiliary.

On Tuesday afternoon, Dr. Emerson Yoder participated in the Communications workshop. He directed his address to the improvement of communications and working relationships between the society and its auxiliary. The Kansas auxilians were happy to claim him as their own.

Our return to green Kansas with its clean air and plentiful, delicious water was followed closely by the Auxiliary Summer Conference, held in Halstead on July 12-13. Following the brief business meeting on Tuesday, optional afternoon activities included tours of the Kansas Health Museum and the new portion of the Halstead Hospital, swimming, tennis, shopping, or relaxed visiting. Evening dinner was followed by a melodrama and theatre pipe organ concert.

On Wednesday morning, William T. Tinker, Wichita attorney, spoke on "What Every Doctor's Wife Should Know About Her Husband's Legal Problems." He stated that very often the patient's dissatisfaction has its genesis with the impersonal attitude in the front office of the hospital or doctor's office. He also asserted that a good set of records is the most important asset a physician can have when faced with litigation.

An excellent workshop, planned by Mrs. Kermit Wedel and Mrs. Robert Moore, included a CPR demonstration. Ford County Auxiliary presented to AMA-ERF a check for $800, profit from a recent art auction.

Gary Caruthers encouraged increased membership in KaMPAC to build a candidate support fund for the next election. Dr. John Huff explained some of the recent legislative bills. He suggested that the Auxiliary members invite medical students and residents for weekends in their communities.

Several Harvey County physicians attended the luncheon. Speaker Dr. Robert Kugel requested that the Auxiliary sponsor a person-to-person project to invite KUMC and WSU academic physicians and their spouses to their communities for weekends this fall. The goals of this venture are to build a bridge of friendship and understanding between academic and community based physicians and their families. This project is under way. Every county president and president-elect, member-at-large, and Board member has been sent a letter to this effect. Doctor, if your spouse is not one of these and you wish to entertain an academic physician, please let me know by letter or phone (316-835-2920).

Doctor, your Auxiliary is a reserve power source, and we will try to keep it charged and ever ready to serve. We will be seeking another membership increase this year, so do encourage your spouse to join our battery of super auxilians.

Sincerely,
Jackie Burnett
President
Kansas Medical Society Auxiliary

All oral bronchodilators are pretty much the same. Right? Wrong!

The difference is in their action—both before and after symptoms begin. That's the reason for TEDRAL®.

- □ effective and prolonged bronchodilation from the synergistic effect of ephedrine and theophylline
- □ β-ADRENERGIC ACTION RELAXES BRONCHIAL SMOOTH MUSCLE
- □ α-ADRENERGIC ACTION REDUCES BRONCHIAL EDEMA AND SECRETIONS
- □ dosage forms to meet individual patient needs

For proven performance...

Tedral® / Tedral® SA / Tedral® Elixir

Each tablet contains 130 mg theophylline, 24 mg ephedrine hydrochloride, and 8 mg phenobarbital

Each tablet contains 180 mg anhydrous theophylline (90 mg in the immediate release layer and 90 mg in the sustained release layer), 48 mg ephedrine hydrochloride (16 mg in the immediate release layer and 32 mg in the sustained release layer); and 25 mg phenobarbital in the immediate release layer

SUSTAINED ACTION

Each 5 ml teaspoonful contains 32.5 mg theophylline, 6 mg ephedrine HCl, and 2 mg phenobarbital; the alcohol content is 15%.

See next page for brief summary.

WC **WARNER/CHILCOTT**
Division, Warner-Lambert Company
Morris Plains, New Jersey 07950

T-GP-72-B/W

TEDRAL®

TEDRAL® SA Sustained Action

TEDRAL® Elixir

CAUTION: Federal law prohibits dispensing Tedral SA without prescription.

Description. Tedral: each tablet contains 130 mg theophylline, 24 mg ephedrine hydrochloride, and 8 mg phenobarbital.

Tedral SA: each tablet contains 180 mg anhydrous theophylline (90 mg in the immediate release layer and 90 mg in the sustained release layer); 48 mg ephedrine hydrochloride (16 mg in the immediate release layer and 32 mg in the sustained release layer); 25 mg phenobarbital in the immediate release layer.

Tedral Elixir: each 5 ml teaspoonful contains 32.5 mg theophylline, 6 mg ephedrine hydrochloride, and 2 mg phenobarbital; the alcohol content is 15%.

Indications. Tedral, Tedral SA, and Tedral Elixir are indicated for the symptomatic relief of bronchial asthma, asthmatic bronchitis, and other bronchospastic disorders. They may also be used prophylactically to abort or minimize asthmatic attacks and are of value in managing occasional, seasonal or perennial asthma.

Tedral SA (Sustained Action) offers the convenience of b.i.d. dosage.

Tedral Elixir is convenient for persons who may have difficulty in swallowing tablets.

These Tedral formulations are adjuncts in the total management of the asthmatic patient. Acute or severe asthmatic attacks may necessitate supplemental therapy with other drugs by inhalation or other parenteral routes.

Contraindications. Sensitivity to any of the ingredients; porphyria.

Warnings. Drowsiness may occur. PHENOBARBITAL MAY BE HABIT-FORMING.

Precautions. Use with caution in the presence of cardiovascular disease, severe hypertension, hyperthyroidism, prostatic hypertrophy, or glaucoma.

Adverse Reactions. Mild epigastric distress, palpitation, tremulousness, insomnia, difficulty of micturition, and CNS stimulation have been reported.

Average Dosage. *Prophylactic or Therapeutic.*

Tedral: *Adults*—One or two tablets every 4 hours. *Children*—(Over 60 lb) one-half the adult dose.

Tedral SA: *Adults*—One tablet on arising and one tablet 12 hours later. Tablets should not be chewed. *Children*—Not established for children under 12.

Tedral Elixir: Note: One teaspoonful is equivalent to *one-quarter* Tedral tablet. *Children*—One teaspoonful per 30 lb body weight, every 4-6 hours, unless prescribed otherwise by physician. Should be given to children under 2 years of age only with extreme caution. *Adults*—One to two tablespoonfuls every four hours.

Supplied. Tedral: White, uncoated scored tablets in bottles of 24 (N 0047-0230-24), 100 (N 0047-0230-51) and 1000 (N 0047-0230-60). Also in Unit Dose—package of 10 x 10 strips (N 0047-0230-11).

Tedral SA: Double-layered, uncoated, coral/mottled white tablets in bottles of 100 (N 0047-0231-51) and 1000 (N 0047-0231-60). Also in Unit Dose—package of 10 x 10 strips (N 0047-0231-11).

Tedral Elixir: Dark red and cherry-flavored in 474 ml (16 fl oz) bottles (N 0047-0242-16).

STORE BETWEEN 59° and 86°F (15° and 30°C).

Full information is available on request.

Information for Authors

Manuscript Preparation

Manuscripts must be typewritten, double spaced, leaving wide margins. Submit the original, plus one copy if possible.

Titles should be short, specific, and amenable to indexing. A subtitle is frequently used to keep the main title short.

Summary: All manuscripts should include a short abstract which is a factual (not descriptive) summary of the work.

Author Responsibility: The author is responsible for all statements made in his work, including changes made by the copy editor. Manuscripts are received with the explicit understanding that they are not simultaneously under consideration by any other publication. Publication elsewhere will be subsequently authorized at the discretion of the Editor.

Galley Proof: To make extensive changes in the article after the text has been set in type may require an additional cost which exceeds the original. The galley proof is for correction of ERRORS, and a rewriting of the article should be done on the original copy BEFORE it is submitted for publication.

Drugs should be called by their generic names; the trade names can be added in parentheses if they are considered important. All *units of measure* must be given in the metric system.

References

Bibliographic references should not exceed 20 in number, documenting key publications. Personal communications and unpublished data should not be included. References should be arranged according to the order of citation, and not alphabetically. All references must be numbered consecutively and all must be cited in the text. Use the style of the AMA publications, giving: name of author, title of article, name of periodical, volume, pages, year.

Illustrations

All material which cannot be set in type, such as photographs, line drawings, graphs, charts, tracings (for preparation of tables, see below) must be mounted on white cardboard. All must be identified on the back as to figure number, author's name, and an arrow indicating top. Legends should be typed double spaced on a separate sheet of paper, limited to a maximum of 30 words.

Drawings and Graphs should be done professionally in India ink on illustration board or high grade white drawing paper.

Photographic material should be submitted in duplicate as high contrast, glossy prints. Color illustrations will be accepted for publication only if the author assumes the cost.

THE JOURNAL will assume the cost of B/W engravings and cuts up to $35 (or 5 cuts). Engraving cost for illustrations in excess of $35 will be billed to the author.

Tables

Because tables are set by hand, their cost is comparable to illustrations. A reasonable number of tables are allowed without cost to the author.

Tables should be self-explanatory and should supplement, not duplicate, the text. Since the purpose of a table is to compare or classify related items, the data must be logically and clearly organized. The relationship and comparison are established by the correct choice of column heads (captions of vertical columns) and stubs (left entries in horizontal listings).

Each table should be typed double spaced, including all headings, on separate sheets of lettersize paper. Oversize paper should not be used. Instead, repeat heads and stubs on a second sheet for tables requiring extra width. Number tables consecutively. Each table must have a title.

Reprints

A reprint order form with a table covering cost will be sent with the galley proof to each contributor. Since the JOURNAL has no way to provide for reprints, they must be ordered by the author and purchased directly from the printer.

ELEVEN WAYS TO MINIMIZE THE RISK OF PROFESSIONAL LIABILITY SUITS

Most physicians don't malpractice. The major monies that are paid out are to patients dissatisfied with results of therapy or for permanent minor or major injuries received during the course of medical therapy.

Many "malpractice" suits against physicians have been: (1) initiated by patients improperly informed concerning the procedures to be carried out or the risks involved; (2) brought because once the patient develops a complication, the physician appears to be less than honest and acts in a secretive and "guilty" manner suggesting to the patient that the doctor is at fault; (3) complications arise because physicians undertake procedures beyond their competence and also, once having a complication, hesitate to get early and adequate consultation.

Similarly, claims have been settled and suits lost even when no negligence occurred, because advice concerning or recognition of patient problems was not documented in the medical record.

Other suits have been initiated by patients who have had complications or untoward incidents and who were later turned over to collection for a small residual bill.

What are the things an individual physician can do to decrease his risks of professional liability claims and suits? The American Academy of Family Physicians recommends the following eleven ways to avoid suits:

1. Know Your Abilities

Know your abilities and stay within your capabilities with willingness to refer or consult early and when needed.

2. Involve the Patient

Involve the patient in treatment decisions, with adequate explanation of risks and possible complications. Avoid developing parent-child relationships with patients. Don't accept "You're the doctor, do what you think best." Such patients are escaping and want your omnipotent cure, but if things don't go well, they also want you to have all the blame.

3. Second Opinion

Give all patients having major surgery or serious diseases the opportunity of a second opinion and document it in the record. With any medical high-risk procedure or unusual procedure, *i.e.* hysterectomy in a woman who wants children, insist on a second opinion.

4. Be Completely Honest

If your patient develops complications or if there are untoward events, be completely honest, be aggressive in management and get early consultation, if indicated. Likewise, keep good records of the events and your advice to the patient and family.

5. Participate in CME

Participate in continuing medical education because a significant percentage of suits have been for misdiagnosis or failure to use a recent acceptable new form of therapy or diagnostic procedure.

6. Keep Thoughts Private

Keep your thoughts private concerning other physicians' capabilities or adequacy to manage a case. Especially don't discuss such cases at social affairs. Likewise, making a judgment as to whether some untoward event was malpractice, based upon inadequate hearsay evidence in the doctors' lounge, is a disservice to your colleagues as well as yourself. Any discussion held on such a topic should be considered in a positive way instead of a negative one. Discussion of other physicians' capabilities should be held only under appropriate circumstances.

7. Confront Disgruntled Patient

If you feel that a patient is disgruntled, confront him as soon as possible and discuss the apparent concerns. Try to settle differences as reasonably as possible. This will usually defuse the problem.

8. Beware of Doctor Shoppers

Patients who talk down every physician they have seen prior to you will probably put you in that same grouping in the near future. Be wary of "doctor shoppers." Encourage good doctor-patient relationships.

9. Notify Carrier Early

If you feel that an untoward incident or event is likely to cause a claim or suit, notify your insurance carrier early. Sometimes their early intervention can head off an escalating chain of events and settle a problem with minimal expenditure of time and money. Insurance companies are doing more aggressive claims management, but to be most effective you need to notify them early.

10. Serve as Patient Advocate

If your patient has an untoward incident, such as an injury caused by falling out of bed, serve as his advocate and approach the problem aggressively with the hospital administration to be sure the patient is cared for and financial differences settled before he leaves the institution.

11. Establish "Incident Committee"

Encourage your hospital to establish an "incident/maloccurrence committee" from among the hospital medical

(Continued on page 395)

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Upjohn

Orinase®

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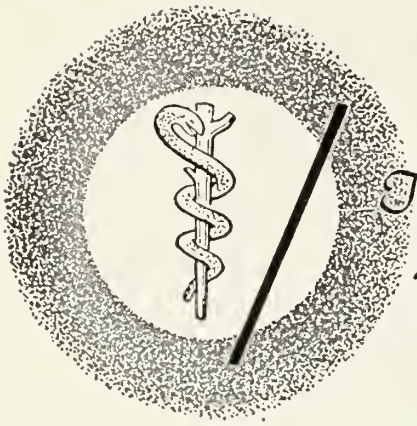

The Kansas Press Looks at Medicine

Physician, Heal Thyself

Adequate medical care for every citizen has grown from being a necessity to an unalienable right, which shouldn't be denied on a basis of financial standing or ability to pay.

Periodically, we hear tales of benefits from other countries' national health programs, as in Canada and England, which cover the expenses of routine and emergency medical help. The cost to the taxpayers is approximately $15 a year.

A national health insurance plan has been gathering support in the U. S. for sometime. A bill in Congress now, sponsored by Sen. Edward Kennedy (D-Mass.) could mark a medical breakthrough equaled only by the worldwide eradication of smallpox in late 1975.

The bill, if passed, would guarantee adequate medical care and facilities for the population in toto. But opponents of the bill have surfaced from the most unlikely quarter: the powerful American Medical Association, with its over 150,000 dues-paying members.

The National Health Insurance plan is deeply resented by many doctors, who envision that further government forays into the health care field would, in the words of one AMA member, "totally control our profession." The doctors see passage of the congressional bill as a step away from the nationalization of doctors.

At the recent convention of the AMA in San Francisco, the members reaffirmed their opposition to the health plan in Congress, and hastened to come up with a surrogate comprehensive health plan of their own.

Government intervention into the daily lives of its citizens—what they wear (that doesn't cause cancer or damage the ozone layer), what they eat and drink or how many restrooms they must have in their farm fields, has indeed become a time-and-money consuming habit.

But in a plan involving health care for millions, where out-of-work doctors would be assured of work, doctor shortages in many areas would be alleviated, and people will be able to receive top-flight medical care at minimal cost to themselves and others, opposition by its main players to their own intended well-being, and the well-being of their potential patients, is sickening.—*Olathe Daily News,* June 25, 1977.

Malpractice Test

The Kansas law requiring doctors practicing in the state to buy malpractice insurance is about to undergo court test.

The attorney general's office instigated the suit against Dr. Byron T. Liggett of Great Bend, who has refused to comply with the law and actively challenged it in order to present his views for ruling. Liggett contends that the law is unconstitutional and wrong ethically and morally.

The doctor is well within his rights in testing the law, but he seems a bit out of step in these days of widespread malpractice suits. It is a rare physician who feels immune from them, or feels financially able to be his own insuror against them.

In one respect, Liggett is right. The law is a boon to insurance companies and the legal profession, which does well for itself in pressing malpractice suits. Knowing there is insurance coverage does nothing to reduce the number of such suits, but rather acts as an encouragement.

Intent of the law, however, is to provide protection to physicians at a cost they can afford. To that extent, Liggett appears to be fighting a losing battle.—*Chanute Tribune,* July 6, 1977.

The Doctor Shortage

A story in the Sunday *Eagle-Beacon* examined the doctor situation in Kansas from a number of different aspects, and the chief conclusion to be drawn from it is that no matter how you look at it, the state is short of doctors—both specialists and general practitioners—in many rural areas all across Kansas.

Moreover, the problem isn't going to be solved easily or quickly. And certainly it isn't going to be solved by making it more difficult for students to go to medical school in Kansas.

A number of proposals have been floated. One would reward medical students who promise to practice in rural areas of the state for a specified period after graduation. Another takes the opposite approach—it would penalize heavily those who don't agree by raising their tuition enormously.

And the other day the vice chairman of the Johnson County Council of Mayors told a legislative committee studying the problem that medical school tuition should be raised to somewhere between $20,000 and $40,000 a year.

If he told the committee how he thought that would help solve the doctor shortage his reasoning wasn't reported. Such amounts may not sound large to denizens of the gilded precincts of Johnson County, but they're formidable to most of the rest of us, and when we need more, not fewer, medical graduates such a proposal seems impractical in the extreme.

Probably the solution will be two-fold: More native Kansans need to be trained in medicine in the state and persuaded to remain here, and, as Dr. Richard Walsh, acting dean of the KU School of Medicine—Wichita, says, we must develop a value system that says it is good to live in a small community and participate in its life.

Both are long-range solutions. It seems unlikely that there are any quick ones.—*Wichita Eagle,* July 13, 1977.

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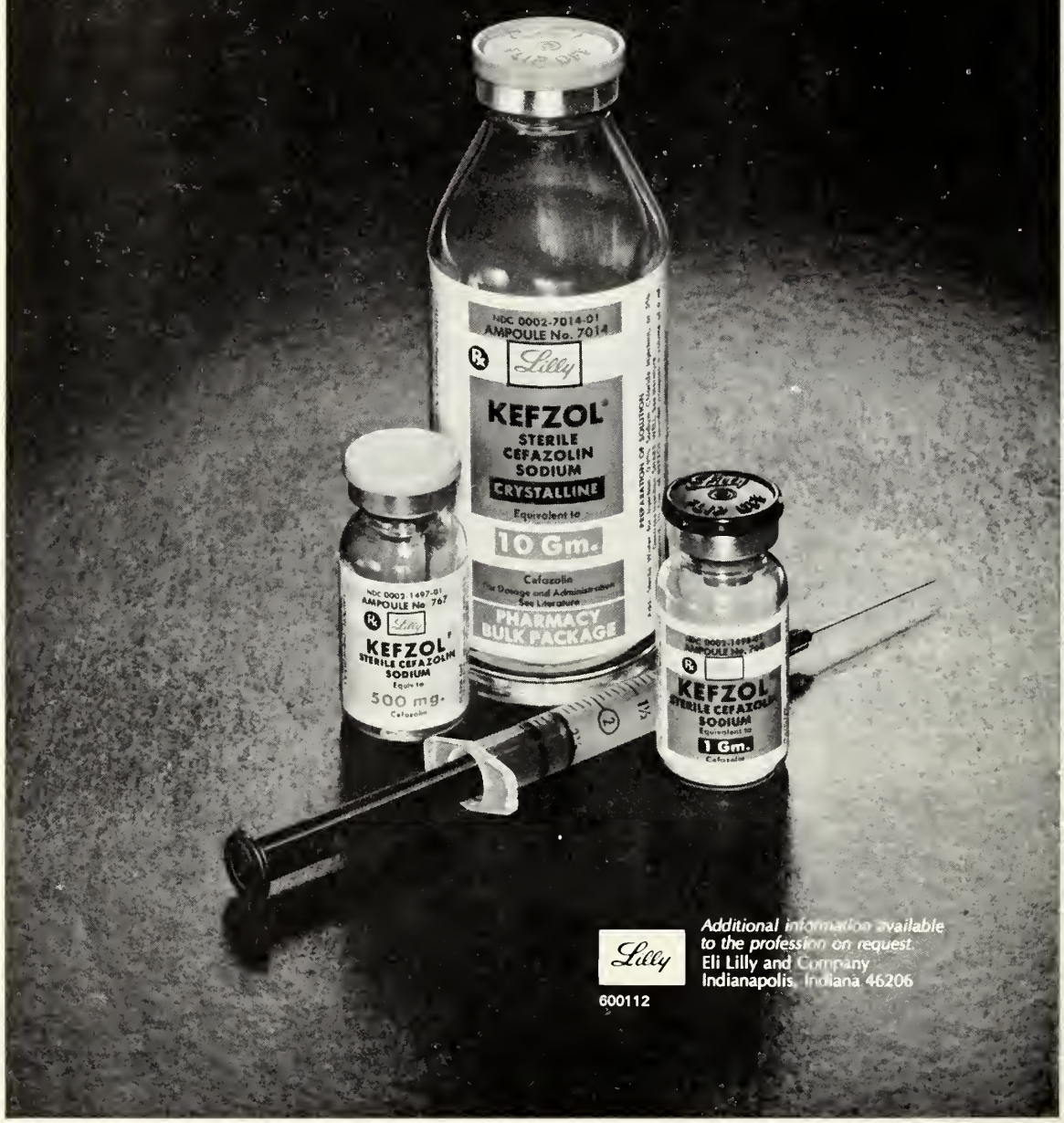

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Fourth Annual Wichita Branch—KUMC Issue

The Dean's Letter—1977

Wichita State University Branch of KUMC

D. CRAMER REED, M.D., ***Wichita****

REMEMBER when your parents measured your growth rate with a yardstick? Their look of pride and accomplishment was obvious as the chalk marks inched higher and higher. I have similar sensations when reviewing the tremendous growth of the Wichita Branch since its inception merely three years ago.

Of the 27 graduating physicians in the class of '77, over half—18—chose to remain in Kansas for their residency training. Equally gratifying is the fact that 14 members of our third graduating class selected residencies in primary care: nine are entering family practice, four will study internal medicine and Ob/Gyn, and one person will pursue pediatrics. There are currently 43 students at the Branch; additional 50 are anticipated in January '78, for a total enrollment of 93 future physicians in two classes.

In order to accommodate this rapid growth of the student body while continually providing quality medical education, the full-time faculty has expanded from its initial 9 members in 1975, to 19 as of July. Dr. Richard A. Walsh joined the branch as Associate Dean for Education and Associate Professor of Family and Community Medicine. He and Dr. Robert Manning, formally associated with KUMC, First Dean of the Eastern Virginia School of Medicine and presently Professor of Internal Medicine, will institute a Human Dimensions in Medical Education program at the Branch. Other new full-time faculty include Dr. Robert Rennebohm and Dr. Mary Ann Lauver, Pediatrics; Dr. Sang O. Lee and Dr. Jack Schaffer, Psychiatry; and Dr. Nancy Nowlin, Internal Medicine. Additionally, we currently have 61 part-time and 254 volunteer faculty located throughout southeast Kansas as well as in Wichita. Our volunteer faculty provided 4,000 man-hours of service last year, which represented a salary cost savings of at least $200,000.

To supplement our human teaching resources, the Division of Educational Resources began a two-year study of the effectiveness of computer assisted instruction (CAI) in the Branch curriculum. Computer terminals and CAI programs are available in the three community hospitals for medical students, faculty, and other area professionals in this comprehensive trial program which is nicknamed CAMP (computer assistance to the medical profession). The currently available interactive programs will be used to enhance lecture presentations, facilitate review for examinations, and teach cognitive skills.

Another electronic innovation at the Branch this fall will be the installation of a microwave TV network, which will ultimately link the Branch and community hospitals with television studios located at the Wichita VA Hospital. The use of split-screen techniques will enable students to interact with lecturers even though the students will be remotely located at the hospital to which they are currently assigned.

A major new outreach educational service of our Division of Special Projects is MISE (Mobile In-Service Education) program. Ms. RoxAnn Banks, RN, is a community health educator who brings audiovisual aids and leads discussion groups for nursing staffs at small hospitals in 11 rural communities within a 100-mile radius of Wichita. The staffs of the participating hospitals select the topics to be covered, and the programs are delivered at the hospital site on a fee-for-service basis. During the first year of operation, MISE presented 68 programs to 2,251 persons for an aggregate of 2,344 participant hours.

Community service and professional training are also combined in the Pediatrics Outreach Clinic, which is directed by Vernon James, MD, Professor of Pediatrics and Medical Director of the Institute of Logopedics. This new project delivers specialized services to the children in the Kingman and Hutchinson areas who have developmental disorders, and simultaneously provides practical training for local professionals while exposing students to health care in smaller communities. Teams of medical nursing and physical therapy students, instructors from WSU College of Health Related Professions, a WSU child and family counselor, and local health professionals all attend the clinics to provide diagnostic workups, physical therapy assessments, and recommendations for continued care. The availability of such sophisticated support services in small communities in south-central and western Kansas is a service of the Branch that also provides an important incentive to participating medical and allied health students to practice in rural areas.

Branch students also participated in two other pro-

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grams this past year that were designed to familiarize them with the realities of rural practice. In September, Kansas Health Day activities attracted over 100 representatives from rural communities who met with medical, nursing, and allied health students at an all-day seminar held in the Broadview Hotel, Wichita. As a result of this program, a Rural Health Weekend was scheduled in February, during which time 19 Branch students had an opportunity to visit a small town to observe physicians in practice, meet community leaders, tour local facilities, and visit with townspeople. That these students now have a better understanding of rural medicine is obvious from this typical comment by one of the students: "I was very encouraged to see first hand that physicians in small communities don't have to be swamped in their practice and can have time for family, church, and community activities."

In our continuing efforts to provide necessary services to rural communities, Jim Metz has joined the Branch administration as a Field Program Developer. He provides technical assistance to local communities in their efforts to improve the quality of health services and to recruit needed health care professionals with particular emphasis on physicians.

Continuing education seminars for physicians in nine-county area have been initiated in Kinsley. Patterned after the highly successful Harper series, four two-hour sessions for physicians were sponsored by our departments of Family and Community Medicine and Postgraduate Education in conjunction with local medical societies.

Senior medical students are continuing their voluntary participation in the Wichita public schools health project. Last year, they served as faculty to 15 elementary schools to inform youngsters about the cardiac and pulmonary systems. This activity will hopefully contribute to the general well-being of future adults, and also constitutes a reminder that, as future physicians, they have a responsibility to the communities in which they practice.

The increased number of personnel needed to support the expanding student body as well as the new community service programs produced serious "growing pains" for the Branch administration. Therefore, it was necessary to move from Fairmont Towers to E. B. Allen Memorial Hospital, 1001 N. Minneapolis, Wichita, 67214, until the new Health Sciences Building on the WSU campus is completed in 1979.

So, like the child's growth chart, the Branch is growing by leaps and bounds. We are greatly encouraged by the caliber of our students and look forward to continual development of new, high quality programs.

Physician-of-the-Year

The stringencies of publication deny to a medical journal the opportunity of participating in the dissemination of news until it is, for all intents and purposes, history. Consequently, we are only now able to extend our belated though sincere congratulations to Robert E. Boyer, M.D., of Kingman, who was selected by *Good Housekeeping* for its Physician-of-the-Year award. For all of his recognized qualifications, Dr. Boyer's selection must be most satisfying to his Kansas colleagues, because of its recognition of the abilities and dedication of a small-town physician.

The award involved a variety of items and activities, including a picture-taking visit with President Carter. With the fanfare that usually surrounds such events, it is generally assumed that the award is enhancing the person. In this instance, we can expect general agreement that the choice, both personally and categorically, elevates the award.

By this time, Dr. Boyer has undoubtedly been returned to the realities of practice. We assume that he has at least checked the waiting room to make sure that those old copies of the *Ladies' Home Journal* have been retired.

Scientific ARTICLES

Coagulopathy and Aneurysm

Aortic Dissection Complications

BERNARD B. MEGAFFIN, M.D.* *and*
ERNEST W. CROW, M.D.,† *Wichita*

CONSUMPTION COAGULOPATHY is a bleeding diathesis caused by a breakdown in the normal hemostatic mechanism. It is characterized by: (1) a deficiency of clotting factors, primarily fibrinogen; (2) thrombocytopenia; (3) the presence of circulating anticoagulants; and (4) excessive fibrinolysis. It is a disease of the microcirculation and may occur in either an acute or chronic form. Consumption coagulopathy is known to accompany many clinical conditions.[1,2]

Increased recognition of acute and chronic intravascular coagulation has resulted in a rapidly proliferating number of case reports associating additional disorders with the development of the syndrome. Atherosclerotic aneurysm or dissection is an infrequent cause of consumption coagulopathy. Described below are three cases of consumption coagulopathy complicating aortic aneurysm or dissection, and review of literature to date of similar documented cases.

Three cases of consumption coagulopathy complicating aortic aneurysm or dissection are described, with a review of literature.

Case Reports

Case One

A 56-year-old white female was transferred to Wesley Medical Center following the sudden onset of numbness and coldness in her left foot, followed by pain. She had undergone a vaginal hysterectomy without complication ten days prior to transfer. Pathologic examination of the specimen revealed hyperplastic endometrium. A radical mastectomy of the left breast was performed two years prior to this admission. There was no past history of arteriosclerotic or hypertensive cardiovascular disease, nor of hyperlipidemia. Vital signs on admission were normal. Initial examination revealed an absence of the left femoral, popliteal, dorsalis pedis and posterior tibial pulses. The left leg was noted to be cooler from the lower calf distally than the right leg, and the toes were cold but not cyanotic. Auscultation of the heart revealed a systolic click. No murmurs were audible. No splinter hemorrhages, petechiae, or ecchymoses of the skin or mucous membranes were noted.

The patient was immediately taken to surgery and a left femoral embolectomy was performed. A large organizing clot was removed distally. An absence of the pulse was noted in the right lower extremity several hours postoperatively, whereupon a right femoral embolectomy was performed. Many clots were removed, both proximal and distal to the common femoral artery.

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TABLE I
PREOPERATIVE COAGULATION STUDIES

Case	Fibrinogen (mg/100 ml)	Platelet Count	Prothrombin Time (sec) PATIENT	Prothrombin Time (sec) CONTROL	Partial Thromboplastin Time (sec) PATIENT	Partial Thromboplastin Time (sec) CONTROL	FSP
1.	280	21,000	14	12	60	33	Increased
2.	210	60,000	12	12	26	27	Normal
3.	245	98,000	11	12	36	31	Normal

Following the second procedure, the distal pulses were normal in both lower extremities.

The admission coagulation studies are presented in *Table I.* A diagnosis of consumption coagulopathy of unknown cause was made based on these values. Intravenous heparin in a continuous infusion was begun, with subsequent improvement as indicated in *Table III.*

The results of chest x-ray, electrocardiogram, and laboratory studies (including sedimentation rate, WBC, CPK, LDH, SGOT, SGPT, alkaline phosphate, BUN, and creatinine) were normal. The reticulocyte count was normal and direct, and the results of indirect Coomb's tests were negative. An echocardiogram showed no abnormalities. Blood cultures showed no growth at 10 days. A bone marrow biopsy revealed slightly decreased normoblastic erythropoiesis, reactive plasmacytosis and megakaryocytic thrombocytopenia, consistent with a consumption coagulopathy. Intravenous pyelogram (IVP) and bone and liver-spleen scans produced normal results.

The patient's condition became stable following the second embolectomy, however, she continued to manifest laboratory evidence of ongoing consumption coagulopathy. On the 13th hospital day, skin changes were noticed in the toes of the left foot that suggested microembolization. Five days later, the patient again embolized to her right leg, and another embolectomy was performed. Because a source for the recurrent emboli was still undefined on the 20th hospital day, catheterization of right and left atria and left ventricle, pulmonary arteriography, and abdominal aortography were performed.

The pulmonary arteriogram revealed normal pulmonary arteries and left atrium. The ascending and descending portions of the thoracic aorta were normal. Left ventriculogram revealed normal ventricular function and no mural thrombi. Abdominal aortogram demonstrated narrowing of the aorta just distal to the renal arteries to the bifurcation, probably secondary to aortic dissection, with involvement of both common iliacs. The luminal diameter was estimated at 10 mm. A false channel lying to the left of the true channel was visualized at the bifurcation. The false channel had a lumen estimated to be 8 mm, and retained dye for several seconds. Dissected intima was visualized in the right common and external iliac vessels, as well as diffuse narrowing of the left common iliac. All major branches of the aorta were well visualized as arising from the true channel. The inferior mesenteric artery was not visualized with certainty. These findings were thought to represent a dissecting hematoma, entry site at the aortic bifurcation, with retrograde dissection to the renal arteries. Antegrade extension was present to the right common and external iliac arteries, and the left common iliac. No significant compromise of blood flow was present.

The patient's consumption coagulopathy resolved spontaneously over the next ten hospital days. Heparin therapy was discontinued. She was discharged 33 days following admission.

Case Two

An 82-year-old white male became aware of a pulsatile abdominal mass one week prior to admission to Wesley Medical Center. He had experienced no abdominal or back pain. The patient's past medical history was negative for heart disease, diabetes mellitus and hypertension; the family history was unremarkable. Physical examination revealed a 9 cm pulsatile mass, extending from the upper to lower quadrant to the right of the umbilicus. No bruit was audible over the mass, and it was slightly tender to the touch. The remainder of the physical examination was normal.

A preoperative screening coagulogram is shown in *Table I.* Despite the absence of degradation products, it was concluded that the most likely explanation for the fibrinogenopenia and thrombocytopenia was a consumption coagulopathy. The patient was placed on a continuous regimen of intravenous heparin. The postoperative improvement is noted in *Table III.*

At surgery, a large abdominal aneurysm was resect-

TABLE II
INTRAOPERATIVE COAGULATION STUDIES

Case	Fibrinogen (mg/100 ml)	Platelet Count	Prothrombin Time (sec) PATIENT	Prothrombin Time (sec) CONTROL	Partial Thromboplastin Time (sec) PATIENT	Partial Thromboplastin Time (sec) CONTROL	FSP
3.	46	45,000	25	12	62	31	Increased

ed with the interposition of an aorto-common iliac bifurcation graft. The patient had to be returned to surgery following a rapid drop in the hemoglobin and hematocrit on the first postoperative day. A large retroperitoneal clot was evacuated at exploration, with massive bleeding from multiple sites. Postoperatively, the patient received multiple transfusions of platelets, fresh frozen plasma, and packed red cells. His hospital course was further complicated by atrial flutter with 2 : 1 conduction, which was converted with digoxin and quinidine. The remainder of the hospital course was unremarkable and the patient was dismissed on the 18th hospital day.

Case Three

A 62-year-old white male was referred to Wesley Medical Center because of an enlarging abdominal mass present for approximately one year. The patient denied any associated pain or other symptoms, however, he did have moderately severe chronic obstructive pulmonary disease. Past medical history was negative for heart disease, hypertension and diabetes mellitus, and the family history was similarly unremarkable. Physical examination revealed a pulsatile abdominal mass that was estimated to be 10 x 13 x 5 cm. The electrocardiogram showed a right bundle branch block pattern. Preoperative screening coagulogram is presented in *Table I.*

The patient was taken to surgery and the aneurysm resected, with the interposition of a Dacron aorto-common iliac bifurcation graft. The patient experienced a drop in blood pressure and abdominal distention one-half hour following surgery. Oozing of blood from multiple sites was noted at re-exploration. The bleeding was eventually controlled and the patient was returned to the recovery room, however, several hours later it was noted that the pedal, popliteal, and femoral pulses were absent in the left lower extremity. The patient was returned to surgery, where femoral embolectomy of left leg resulted in the removal of a fresh clot and atheromatous tissue distally. An intraoperative screening coagulogram is presented in *Table II.* A regimen of heparin intravenously was initiated with subsequent improvement shown in *Table III.*

The heparin treatment was continued postoperatively until hemostatic stabilization was noted. The hospital course was further complicated by an episode of swelling of the left calf, believed to be due either to thrombophlebitis or hemorrhage into the muscle. The patient was discharged on the 32nd hospital day.

Discussion

Each of the above cases is characterized by the presence of an aortic aneurysm or aortic dissection, with a thrombotic or hemorrhagic diathesis. Cases #1 and #3 were characterized by the sudden onset of the coagulation disorder, while in Case #2 it may have been present in a chronic form. Consumption coagulopathy was suggested in each case by the presence of thrombocy-

TABLE III
POSTOPERATIVE COAGULATION STUDIES

Case	Fibrinogen (mg/100 ml)	Platelet Count	Prothrombin Time (sec) PATIENT	Prothrombin Time (sec) CONTROL	Partial Thromboplastin Time (sec) PATIENT	Partial Thromboplastin Time (sec) CONTROL	FSP
1.	390	32,000	..	..	..	..	ULN*
2.	240	112,000	..	..	..	..	..
3.	210	81,000	12	12	35	30	Increased

* Upper limits of normal.

topenia and fibrinogenopenia and, in two of three cases, by the presence of fibrin and fibrinogen degradation products. All three patients were treated with continuous intravenous heparin, with subsequent improvement in the coagulation mechanism and clinical course.

The first description of consumption coagulopathy occurring with arterial aneurysm was made by Fine and associates in 1967.[3] They described a 51-year-old female who presented with a dissecting aneurysm. Clinical (petechiae, bleeding from venipuncture sites, and gingival bleeding) and laboratory evidence were consistent with the diagnosis. A transverse intimal tear was found distal to the origin of the left subclavian artery at autopsy. These findings were clouded by the pressure of extensive central hepatic necrosis, which may have been responsible for the clotting defects. A case reported by Bieger *et al.,* in 1971, was also strongly suggestive of consumption coagulopathy, however, the patient was in shock, which is known to produce the consumption coagulopathy syndrome. They also described a 73-year-old female who presented with a dissecting thoracic aneurysm, bleeding diathesis, and coagulation studies consistent with consumption coagulopathy.

Kazmier and co-workers[5] described a 77-year-old male with aortic and bilateral popliteal artery aneurysms, whose coagulation studies were consistent with a chronic consumption coagulopathy. Excessive bleeding was observed at surgical resection of the abdominal aneurysm. Improvement in the coagulation studies was noted postoperatively, however, a low platelet count persisted. Bieger, in addition to the previously described cases, described two additional cases of consumption coagulopathy of acute onset associated with dissecting arterial aneurysms.

In 1973, Schnetzer and Penner[6] described a case of chronic consumption coagulopathy in an 80-year-old female. Coagulation studies were consistent with consumption coagulopathy, and x-ray examination revealed a large aortic aneurysm involving the arch, descending thoracic, and abdominal portions of the aorta. Heparin therapy resulted in significant improvement in coagulation studies. In 1975, ten Cate and associates[7] described four additional cases, each demonstrating consumption coagulopathy resulting from either a rupturing or dissecting arterial aneurysm. Prominent laboratory features noted in each of their cases included: (1) a prolonged prothrombin time due to a decrease of one or more clotting factors; and (2) the formation of fibrin and fibrinogen degradation products.

Prior to the widespread use of the screening coagulogram for patients about to undergo vascular surgery, profuse bleeding intraoperatively and postoperative renal failure were frequently observed in patients who were subsequently demonstrated or suspected to have had a consumption coagulopathy.[8–10] Mulcare *et al.*[11] retrospectively studied a number of patients who had undergone abdominal aortic aneurysm repair, and found a significant incidence of abnormal bleeding intraoperatively and postoperatively, and a high correlation with the subsequent development of acute renal shutdown. Of six patients with laboratory evidence of consumption coagulopathy, only two recovered, both requiring multiple dialyses or intravenous heparin therapy. Of the three patients who received heparin, all showed subsequent improvement of coagulation studies and the disappearance of fibrin and fibrinogen degradation products.

Many clinical conditions are associated with consumption coagulopathy.[1] In addition, other predisposing causes, such as dysfunction of the reticuloendothelial system, liver or fibrinolytic system, may act in conjunction with or mimic consumption coagulopathy.[1, 12] The pathogenetic mechanism that is most likely responsible for consumption coagulopathy complicating arterial aneurysm is the local consumption of coagulation factors within the aneurysm. A similar mechanism has been suggested for consumption coagulopathy in placental abruption. Fibrinogen depletion occurs secondary to the retroplacental clot formation.[13] However, it has also been postulated that the syndrome may be due to the liberation of coagulant material from the aortic wall. Another hypothesis is that it is secondary to the local effect of or to the liberation of a fibrinolytic activator from the aortic wall.

Prentice and co-workers[14] demonstrated that platelet adhesion was significantly greater to ulcerated atheromatous tissue than to normal aortic intima, and that homogenized atheromatous aortic tissue more readily generated intrinsic prothrombin activator than did normal aortic tissue. Sustained consumption coagulopathy could be accounted for by the continued interaction of ulcerated aortic intima with plasma clotting factors and platelets.

ten Cate[7] presented evidence that various structures of the aortic wall may trigger a localized clotting process. His group demonstrated an accumulation of the I-125-labeled-fibrinogen at the actual site of the arterial lesion. In addition, it has been shown that aortic adventitia possesses a high fibrinolytic activator activity, whereas the aortic media and intima possess weak thromboplastic properties. The exposure of subendothelial aortic tissues apart from collagen have been shown to lead to the massive deposition of platelets.[15]

These facts suggest three possible mechanisms that could explain the pathogenesis of this disorder: (1) the

activation of factor XII by subendothelial tissues such as collagen;[16] (2) the activation of factor VII by thromboplastic material from the arterial wall; and (3) the fibrinolytic activator activity present in the aortic adventitia.[7] Plasmin formed by this route leads to the proteolysis of clotting factors V, VII and XII, and fibrinogen with the formation of the degradation products. Thrombocytopenia could be explained by increased consumption in the clotting processes or the adhesion of platelets at the sites of collagen lining the tear in the aortic wall. A corrective effect noted in one case following vitamin K administration would indicate that vitamin K deficiency may play a role in the pathogenesis of coagulopathy.

Clinically, the occurrence of consumption coagulopathy may be of use in differentiating conditions similar in presentation to a dissecting aneurysm such as acute myocardial infarcton.[7, 17] Only slight increases in fibrin and fibrinogen degradation products have been observed in acute myocardial infarction, which is in striking contrast to the markedly elevated levels in patients with ruptured or dissecting aneurysms.[18]

The drug of choice for treating this syndrome appears to be heparin by intravenous administration. Low doses have been advocated (5 units/hr/kg body wt) to prevent further intravascular coagulation without the danger of severe hemorrhage that has been observed at higher doses, particularly in the presence of thrombocytopenia. Fibrinogen and other depleted coagulation factors should be replaced after heparin therapy has been instituted. In cases where thrombotic-hemorrhagic diatheses are less likely, it is advisable to await developments since the consumption coagulopathy is probably self-limited (*i.e.* when the thrombus has filled the aneurysm and stopped growing). Primary attention should be directed at the presumed cause of the syndrome, with surgical resection of the aneurysm whenever possible.[11] Chronically, in cases where surgery is refused or contraindicated, use of heparin subcutaneously may be judicious; however, some believe that heparin increases bleeding as frequently as clinical improvement is noted, and Deykin[19] suggests that heparin therapy be recommended only in the event of hemorrhagic diathesis. Antifibrinolytic therapy, with agents such as epsilon aminocaproic acid, should be used with great caution, especially in the face of oliguria, unless it can be clearly demonstrated that fibrinolytic activity is overwhelmingly preponderant.[11] Fibrinolysis is often beneficial in that it acts to lyse fibrin thrombi in target organs, such as the kidney.

References

1. Kwann, H. C.: Disseminated intravascular coagulation. *Med. Clin. North Am.* 56:177, 1972.
2. Bone, R. C.; Francis, P. B. and Pierce, A. K.: Intravascular coagulation associated with adult respiratory distress syndrome. *Am. J. Med.* 61:585, 1976.
3. Fine, N. L. *et al.:* Multiple coagulation defects in association with dissecting aneurysm. *Arch. Intern. Med.* 119:522, 1967.
4. Bieger, R. *et al.:* Arterial aneurysm as a cause of consumption coagulopathy. *New Engl. J. Med.* 285:152, 1971.
5. Kazmier, F. J.; Didisheim, P. and Fairbanks, V. F.: Intravascular coagulation and arterial disease. *Thromb. Diath. Haemorrh.* 36 (supplement): 295, 1969.
6. Schnetzer, G. W. and Penner, J. A.: Chronic intravascular coagulation syndrome associated with atherosclerotic aortic aneurysm. *South. Med. J.* 66:264, 1973.
7. ten Cate, J. W.; Timmers, H. and Becker, A. E.: Coagulopathy in ruptured or dissecting aneurysms. *Am. J. Med.* 59:171, 1975.
8. Darling, R. C.: Ruptured arteriosclerotic abdominal aneurysm: A pathologic and clinical study. *Am. J. Surg.* 119:397, 1970.
9. Strokes, J. and Butcher, H. R.: Abdominal aortic aneurysm. *Arch. Surg.* 107:297, 1973.
10. Couch, N. P.; Lane, F. C. and Crane, C.: Management and mortality of abdominal aortic aneurysm. *Am. J. Surg.* 119: 408, 1970.
11. Mulcare, R. J. *et al.:* Disseminated intravascular coagulation as a complication of abdominal aortic aneurysm repair. *Ann. Surg.* 180:343, 1974.
12. Rapaport, S. I. *et al.:* Plasma clotting factors in chronic hepatocellular disease. *New Engl. J. Med.* 263:278, 1960.
13. Pritchard, J. and Wright, M.: Pathogenesis of hypofibrinogenemia in placental abruption. *N. Engl. J. Med.* 261: 218, 1959.
14. Prentice, C.; McNicol, G. and Douglas, A.: Effect of blood coagulation, fibrinolysis and platelet aggregation of normal and atheromatous aortic tissue. *J. Clin. Pathol.* 19:154, 1966.
15. Baumgartner, H. R.; Stemerman, M. B. and Spaet, T. H.: Adhesion of blood platelets to subendothelial surface: distinct from adhesion to collagen. *Experientia* 27:283, 1971.
16. Niewiarski, S.; Bankowski, E. and Ragowicka, J.: Studies on the absorption and activation of the Hageman Factor (Factor XII) by collagen and elastin. *Thromb. Diath. Haemorrh.* 14:387, 1965.
17. Mannick, J. A.: Diagnosis of ruptured aneurysm of the abdominal aorta. *New Engl. J. Med.* 276:1305, 1967.
18. Okuno, T. and Nelson, C.: Value of determination of serum fibrin degradation products in acute myocardial infarction. *Am. J. Clin. Pathol.* 61:155, 1974.
19. Deykin, D.; The clinical challenge of disseminated intravascular coagulation. *New Engl. J. Med.* 283:636, 1970.

Lupus Nephritis

Renal Involvement

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RENAL involvement is the most dangerous complication and the greatest therapeutic challenge of all lupus erythematosus (LE) problems. Renal involvement occurs in at least 75 per cent of patients with systemic lupus erythematosus, and markedly influences morbidity and eventual outcome.[1]

Diagnosis

Most of the patients at onset of lupus nephritis meet the criteria established by the American Rheumatism Association for diagnosis of systemic lupus erythematosus.[2] Manifestations of the renal disease include hematuria, proteinuria, casts, hypertension, saliuresis and nephrotic syndrome; azotemia may be present. Strict criteria requires one or more of the manifestations of renal disease, four of the criteria listed by the American Rheumatism Association,[3] and histologic confirmation. Some authorities require a positive LE preparation. However, it is important to recognize that a biopsy may show kidney disease even in the absence of clinical evidence of lupus nephritis.

Pathology

Lupus nephritis may be manifested by any one of three pathological forms, and patients can usually be assigned to one of the forms. Proliferative glomerulonephritis is characterized by involvement of nearly all the glomeruli. Electron microscopy reveals focal thickening of the endothelial side of the basement membrane. There is marked hypercellularity, loss of capillary lumina, nuclear fragments, cytoplasmic smudging, eosinophilia, neutrophil infiltration, adhesions to swollen cells of Bowman's capsule, and various degrees of localized sclerosis. In the areas of proliferation, immunoglobulin and fibrin deposition are common. Tubular atrophy is usually present. In Baldwin's[4] series of 24 patients with proliferative glomerulonephritis, 10 patients were followed with serial biopsy or follow-up material at autopsy, and there were no striking progressive changes except for the increase in the amount of basement membrane-like material.

Membranous glomerulonephritis is manifested by uniform thickening of capillary basement membranes with little or no hypercellularity. Immunoglobulin and complement are distributed in a finely granular pattern along the epithelial side of the glomerular basement membrane of all loops in contradistinction to the irregular deposition in the diffuse proliferative type. With long standing membranous glomerulonephritis, glomerular sclerosis, interstitial fibrosis and tubular atrophy may be found. Of the 14 patients in Baldwin's series with membranous glomerulonephritis, 5 patients were studied with serial biopsies and one patient showed transition from membranous to the diffuse proliferative type.

Manifestations of the renal disease are described, treatment suggested, and review of literature presented.

There is an isolated hypercellularity and obliteration of the capillary lumen due to endothelial cell and mesangial proliferation in one glomerular tuft in focal glomerulonephritis, whereas other portions of the glomerulus and other entire glomeruli appear normal. There is also neutrophil infiltration, nuclear fragmentation, and adhesion to swollen cells of Bowman's capsule with various degrees of localized sclerosis. Tubular atrophy is usually mild and focal. Deposits of immunoglobulin occur in those areas showing histologic changes.

Prognosis

Regardless of the pathological feature of the kidney biopsy, the great majority of patients with lupus nephritis have active systemic lupus erythematosus. As mentioned, the prognosis for lupus erythematosus generally parallels the renal involvement; the LE patients with azotemia survive a shorter time than do the nonazotemic LE patients. Generally speaking, the nephrotic syndrome indicates a poor prognosis,[5] but each pathological form means a different prognosis.

Baldwin *et al.*[4] reported 52 patients with lupus nephritis, and all received adrenal corticosteroids. Diffuse proliferative glomerulonephritis carries a dire prognosis.

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In Baldwin's series, 17 of 24 patients with diffuse proliferative nephritis died, and death was due to renal failure in 9 patients. Duration of lupus nephritis until death was less than one year in 4 patients, one to three years in 10 patients, and three to five years in 3 patients. In the remaining 7 patients, renal insufficiency was present at the time of death, but it was not considered to be the cause of death.

In Baldwin's series, there were 14 patients with membranous glomerulonephritis; 5 patients died. Three patients died with uremia—1 month, 6 months, and 7½ years after discovery of the renal disease. Two other patients died with renal insufficiency, but not with uremia. One patient died 1¾ years and the other patient 9 years after discovery of the renal disease.

Focal glomerulonephritis has a good prognosis. Fourteen patients suffered from focal proliferative nephritis; five of these died after periods ranging from 5 months to 6 years after discovery of the renal disease. All died with active systemic lupus erythematosus, and there was *no* elevation of BUN at the time of death in any of the five patients.

Treatment

General measures include adequate bed rest, good nutrition, and avoidance of sunlight. Contraceptive pills should not be taken. It is probably unwise to give patients immunizations, and allergic desensitizations should be avoided. While the condition of some patients may improve during pregnancy, especially those with joint manifestations, the condition of other patients, especially those with renal involvement, may worsen. Spontaneous abortion, fetal mortality, and eclampsia are more frequent among such patients.

The question of kidney biopsy exists in every lupus patient, particularly if there is clinical evidence or suspicion of renal disease. It has been suggested that a kidney biopsy be performed on every patient with lupus erythematosus. Some authorities refuse to accept the inherent risk of complications of biopsy if the patient shows clinical evidence of azotemia, hypertension, saliuresis, or proteinuria. The patient would be treated as if diffuse proliferative glomerulonephritis was present regardless of what the biopsy might show.[6] Dubois[7] suggests that, from a practical standpoint, a biopsy may not be of much value because it tends to push the physician into more vigorous therapy than may be necessary, since the biopsy generally looks worse than does the clinical picture. He stated that even in the presence of absolutely normal renal function, normal proteinuria and normal sediment, renal biopsies of all patients with LE showed evidence of mild changes using light or electron microscopy. Dubois followed 12 patients, of whom only 1 developed progressive renal disease. However, Dubois stated that renal biopsy is valuable in advanced lupus nephropathy, where there is significant renal impairment, because in these cases the question arises whether steroids or other therapy may be helpful. If there is active inflammation or a few normal glomeruli, steroids or other therapy is indicated. If almost all of the glomeruli are severely damaged, further treatment is probably not worth while. Further, the renal lesion is not necessarily an insidiously progressive one. It may stabilize with residual damage for years and may not progress. Also, in the earlier phases, it may remit with or without therapy, which obviously makes the evaluation of treatment difficult.[7] If proliferative glomerulonephritis is present, the recommended treatment consists of prednisone 50-75 mg/day.[7] If there is no improvement and marked proteinuria persists, and if there is evidence of nephrotic syndrome, nitrogen mustard in a single dose (0.3 mg/kilo) is administered. Cyclophosphamide 50 mg/day could also be used and the dose cautiously increased to 150 mg/day.[5]

There is controversy regarding the duration and dosage of steroid treatment. Pollak,[8] in 1961, reported the mean survival time of 14 months for patients treated with low dose steroids, and 26 months for those treated with high dose steroids (prednisone more than 40 mg/day).

Gary *et al.*,[5] in 1967, reported a retrospective study of eight patients treated with steroids who survived more than 30 months. Survival in this group ranged 33-135 months, and the average survival was 90 months. Each patient received sufficient doses of prednisone to control renal manifestations of the disease, which included hematuria, cylindruria, massive proteinuria, and declining renal function. The dosage of prednisone 40 mg/day was used in four patients, and of prednisone 40 to 100 mg/day in four other patients. They were treated with prednisone for 1 to 5 months. After the remission was induced, all patients were kept on minimal doses of prednisone, except during exacerbations. There was no evidence of progressive loss of renal function in any of the patients after 33-135 months. Their data suggested that rather than high dosage for a fixed period, sufficient steroid therapy to suppress all manifestations of the disease during the acute phase can be safely followed by minimal therapy.

Since renal disease frequently progresses even in patients adequately treated with steroids, cytotoxic drugs[9-14] have been tried. However, a control study by Donadio *et al.*[15] compared patients treated with

prednisone and combined prednisone and azathioprine. They concluded that high dose corticosteroids are effective in the short-term therapy of mild or moderately severe lupus nephritis, and that the addition of azathioprine did not improve their prognosis.

Decker *et al.*[16] reported 38 patients with glomerulonephritis. The pre-entry renal biopsies all showed diffuse glomerulonephritis, except the three specimens categorized as membranous disease. All 38 patients were randomly assigned to add cyclophosphamide, azathioprine, or nothing to low dose corticosteroid treatment. They were followed for a mean of 2½ years thereafter. Gradual deterioration was observed in all three groups (most frequently among those patients on a regimen of prednisone only); however, cytotoxic drugs seemed to add marginally to the control of the disease.

The recent study by Hecht *et al.*,[17] suggested that the addition of azathioprine to low dose prednisone therapy resulted in clinical and histologic improvement in approximately 65 per cent of patients with lupus gromerulonephritis. This study emphasized subendothelial deposits as prognostically important. Treatment was associated with improvement only in those cases in which a dissolution of subendothelial deposits occurred. The dose was: prednisone less than 20 mg/day and azathioprine 2 mg/kg/day for an average of 29 months or until death.

Renal involvement may take the form of any chronic kidney disease late in the course of lupus nephritis, while the usual clinical findings of systemic lupus erythematosus may be absent. In such cases treatment should be the same as for any chronic renal disease with dialysis and renal transplantation used successfully.

Summary

Renal involvement occurs in 75 per cent of cases of systemic lupus erythematosus, and the extent of kidney disease influences the mortality rate. The kidney involvement is manifested by one of three pathological forms: (1) proliferative glomerulonephritis carries a poor prognosis; (2) membranous glomerulonephritis carries a fair prognosis; and (3) focal glomerulonephritis means a good prognosis.

Treatment with corticosteroids and other immunosuppressive drugs should be reserved for those patients with membranous and proliferative glomerulonephritis who show active disease manifested by abnormal kidney function tests. The effectiveness of these drugs is controversial.

References

1. Becker, E. Lovell: *Perspectives in Nephrology and Hypertension*. New York: John Wiley and Sons, 1976.
2. Ehrlich, George: Systemic lupus erythematosus. *JAMA* 232:1361-1363, 1975.
3. Cohen, A. S. *et al.*: Preliminary criteria for the classification of systemic lupus erythematosus. *Bull. Rhem. Dis.* 21:643-648, 1971.
4. Baldwin, David S. *et al.*: The clinical course of proliferative and membranous forms of lupus nephritis. *Ann. Int. Med.* 73:929-942, 1970.
5. Gary, Nancy E.; Maher, John F. and Schreiner, George E.: Lupus nephritis. *New Engl. J. Med.* 276:73-78, 1967.
6. Ball, Gene V. *et al.*: Connective tissue disease management for primary physicians. *Patient Care* 10:90-111, 1976.
7. Dubois, Edmund L.: Interview. *Clinical Trends in Rheumatology* 6:1-3, 1975.
8. Pollak, V. E. *et al.*: Effect of large doses of prednisone on renal lesions and life span of patients with lupus glomerulonephritis. *J. Lab. Clin. Med.* 57:495-511, 1961.
9. Kellum, R. E. and Haserick, J. R.: Mechlorethamine therapy for systemic lupus nephropathy: analysis and review of ten years' experience and a clinical study of 211 cases including 81 patients treated with mechlorethamine. *Arch. Dermatol.* 87:289-298, 1963.
10. Maher, J. F. and Schreiner, G. E.: Treatment of lupus nephritis with azathioprine. *Arch. Intern. Med.* 125:293-298, 1970.
11. Shelp, W. D.; Bloodworth, J. M. B. Jr. and Rieselbach, R. E.: Effect of azathioprine on renal histology and function in lupus nephritis. *Arch. Intern. Med.* 128:566-573, 1971.
12. Cameron, J. S. *et al.*: Treatment of lupus nephritis with cyclophosphamide. *Lancet* 2:846-849, 1970.
13. Shearn, M. A.: Mercaptopurine in the treatment of steroid-resistant nephrotic syndrome. *New Engl. J. Med.* 273: 943-947, 1965.
14. Grupe, W. E. and Heymann, W.: Cytotoxic drugs in steroid-resistant renal disease: alkylating antimetabolic agents in the treatment of nephrotic syndrome, lupus nephritis, chronic glomerulonephritis, and purpura nephritis in children. *Am. J. Dis. Child.* 112:448-458, 1966.
15. Donadio, James V. *et al.*: Treatment of lupus nephritis with prednisone and combined prednisone and azathioprine. *Ann. Int. Med.* 77:829-835, 1972.
16. Decker, John L. *et al.*: Cyclophosphamide or azathioprine in lupus glomerulonephritis. *Ann. Int. Med.* 83:606-615, 1975.
17. Hecht, B. *et al.*: Lupus nephritis: natural history and therapy. *Perspec. Nephrol. Hypertens.* 3:21-42, 1976.

CORRECTION

The name of Representative Glickman was erroneously omitted from the list of legislative contacts on Page 15, August 1977 *(1977 Roster)*.

Daniel R. Glickman replaced Mr. Shriver as the Representative of the 4th Congressional District. His address is: 1128 Longworth Bldg., 20515. Phone extension: 2216.

Meningomyelocele Repair

Use of Delayed Bipedicle Flaps

GERALD D. NELSON, M.D., TOMMY E. KENDALL, M.D.,
RICHARD C. SHAW, M.D., *and* BRUCE G. FERRIS, M.D., *Wichita*

Advantages and disadvantages of various methods of repairing large meningomyelocele are presented. The use of delayed bilateral flaps for closure of large defects is advocated.

SKIN COVERAGE in meningomyelocele can be provided by several methods, including skin advancement with undermining, skin advancement with relaxing incisions, rotational flaps,[1] or free skin grafts applied to musculo-osseous flaps.[2] In recent years, early closure of meningomyelocele has been advocated by some to reduce the incidence of infection and preserve nerve function.[3] Early closure of the defect should not be attempted if there is a risk of skin necrosis. Wide undermining of the skin can provide additional skin in small defects. Relaxing incisions have been utilized to relieve tension in skin advancement, but their length must be limited since long relaxing incision will irreparably reduce the vascularity of the central portion of the skin advancement. Rotational flaps are satisfactory in moderate defects, but are limited by position and size of the defect. Undesired tension may be present in the area directly overlying the closure of the meningomyelocele. The larger the defect, the greater the possibility of tension and poor blood supply produced by small pedicles and wide undermining.

In spina bifida with rachischisis, there is a complete failure of the neurogroove to close during embryonic development *(Figure 1)*. The dorsal bony structure of the vertebral column is absent or widely separated with exposure of the neural tissue, at times covered by only a thin membrane. This defect may be confined to the lumbar region or involve a long segment of both the thoracic and lumbar spine. Delayed bilateral bipedicle flaps have been utilized in large meningomyelocele with rachischisis to ensure satisfactory primary wound healing when it was felt that other methods would be either technically difficult or represent a risk of wound separation. Delayed bipedicle flaps have provided large amounts of skin of predetermined design and proven viability before transfer.

Technique

Bilateral bipedicle flaps are prepared by staged delays prior to closure of the meningomyelocele *(Figure 2)*. Adequate mobility of the skin flaps and sufficient circulation to maintain skin color is ensured before excision of the sac. When the spina bifida defect is obviously too large for closure by the usual methods, the lateral incisions are made as the first procedure. The width of each flap has been made equal in its central portion to the apparent defect in the skin. The length is never more than twice the width of the most narrow

Figure 1. Large thoracic lumbar meningomyelocele.

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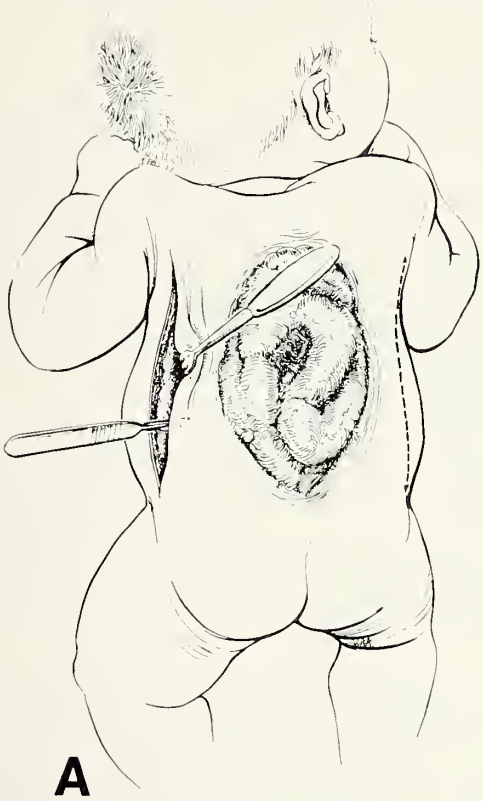

Figure 2. 1st stage—lateral undermining of flaps.

base. In long thoracic-lumbar defects, the width and length of the flap is eventually limited by the groin and axilla, preventing further extension of the lateral incision. Taking care not to open the meningomyelocele, the skin flaps are completely elevated from the lateral approach and re-sutured in their original position. The second stage is performed after adequate wound healing. An incision is made around the periphery of the meningomyelocele in the area of normal skin *(Figure 3)*. The flaps are then re-elevated through the incision. In the event the skin color is questionable, this medial incision is re-sutured as a second delay. Should the meningomyelocele be ruptured during the dissection, the skin flaps can be transferred with less risk, due to the previous delay.

The third stage of the procedure consists of completely elevating both bipedicle flaps by reopening all previous incisions *(Figure 4)*. The meningomyelocele is dissected and the spinal cord covered with available meninges and surrounding fascia. The flaps are then closed over the repaired defect in a layered closure. The lateral edges of the flaps are not sutured. This allows the child to move in the early postoperative period without producing tension on the newly positioned flaps. A skin advancement of the abdominal skin is performed and sutured to the fascia. If attached to the fascia, this skin can be placed under great tension but an attempt is never made to attach this advanced abdominal skin to the lateral edges of the skin flaps. In seven to ten days following the closure of the meningomyelocele, split thickness skin grafts are applied to any remaining open areas.

Discussion

Three patients with large meningomyeloceles have been treated by delayed, bilateral, bipedicle flaps. The only complication observed was a localized abscess under one flap after closure of the meningomyelocele. The abscess was treated with antibiotics, incision, and drainage. The blood supply to the skin was sufficient to prevent necrosis of the flap and infection of the meninges.

The advantages of this method of closure over other skin flaps lie in the large area of skin that can be transferred with good blood supply and minimal tension. This is accomplished by delaying the bipedicle flaps. Delay provides the advantage of determining the

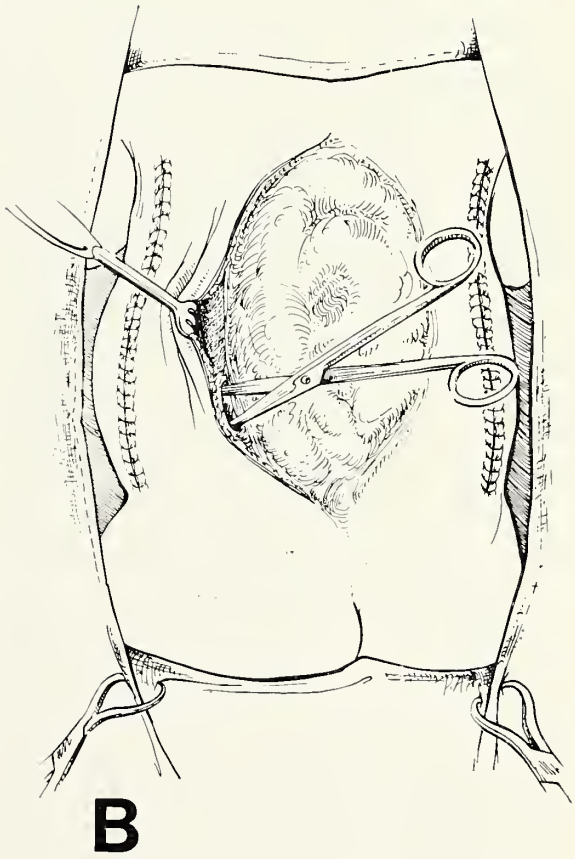

Figure 3. 2nd stage—medial undermining of flaps.

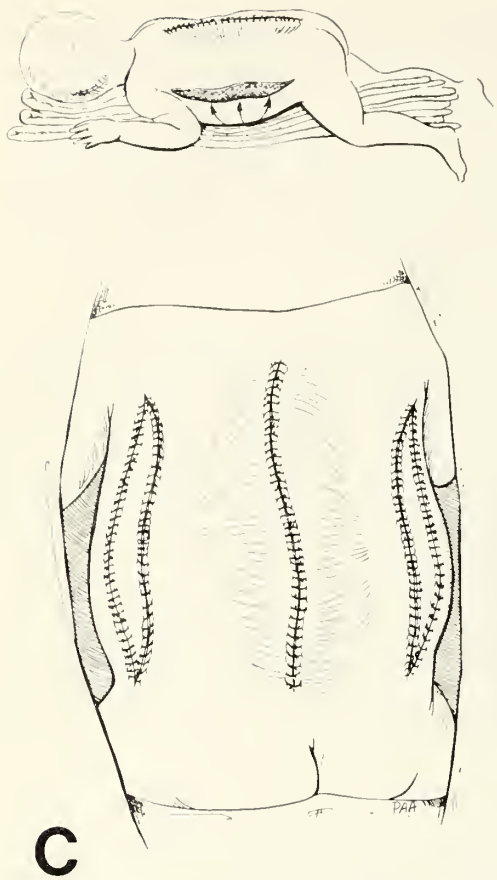

Figure 4. 3rd stage—closure of meningomyelocele and shifting of flaps.

ability of the skin to be shifted over the defect prior to excision of the defect. Each step is carried out with minimal risk of entering the meningomyelocele. No transfer of the flap is performed until adequate vascularity has been proved. By making each flap as large as the defect itself, enough excess coverage is provided to eliminate the need to suture the lateral edges of the flap, or provide immediate skin coverage of the donor site. Skin advancement of the abdominal skin at times can be sutured under great tension near enough to the lateral edges of the flap to obviate secondary skin grafting. Under no circumstances should the skin advancement be sutured to the lateral edge of the flap; this could easily produce disruption of all suture lines.

The disadvantages of this method cannot be avoided. Early closure of the meningomyelocele during the first 24 hours of life, when bacterial count of the skin is lowest, is impossible. Multiple anesthetics are required, and sometimes cutdowns have been necessary to administer fluids. Blood transfusions have seldom been required, but have been necessary before skin grafting, after the flap donor sites have been open and granulating. We have found that these disadvantages have not been great enough to prompt immediate split-thickness skin grafting. Immediate grafting has been purposely avoided to prevent pressure on the skin flaps during immobilization of the split-thickness grafts.

Summary

The use of delayed bilateral bipedicle flaps for the closure of large meningomyeloceles is advocated. A staged approach to development of the skin flaps provides large areas of skin with good blood supply to minimize the risk of necrosis and exposure of the meninges. This method is reserved for the treatment of large defects only. Small meningomyeloceles should be closed immediately with other types of skin closure.

References

1. Paterson, T. J. S.: The use of rotation flaps following the excision of lumbar myelo-meningoceles. *Brit. J. Surg.* 46:606, 1958.
2. Mustarde, John C.: Reconstruction of the spinal canal in severe spina bifida. *Plast. Reconstr. Surg.* 42:109, 1968.
3. Matson, Donald D.: Surgical treatment of meningomyeloceles. *Ped.* 42:225, 1968.

WHAT'S UP? MEDICAL BILLS ETC., ETC., ETC.

What's up? Well, medical care prices are up—that's for sure. Medical care was at 184.7 on the Consumer Price Index in 1976 (1967=100). Some people even say that medical care is the fastest rising item in the CPI.

But that's not true, says the American Medical Association. Many important items on the CPI (and some relatively trivial ones, too) are rising as fast as medical care—or even faster.

That includes many essential services. Lawyers' charges, for example, were at 199.9 on the 1976 CPI. Insurance and finance charges were at 196.6. Postal charges were at 222.3.

Most services pertaining to everyday living are up: having your living room or dining room repainted (225.6); having the house roof reshingled (233.4); having a sink replaced (210.2); having the furnace repaired (207.1); having the washing machine repaired (200.4); repairs of the family auto (189.7); services of a baby sitter for the evening (214.6).

Speaking of baby sitters and babies, the price of diapers registered 190.2 on the CPI, while blue jeans were slightly behind at 190.

Coffee breaks and other between-meal snacks have also made impressive price rises: coffee was at 243.6; sugar at 201.3; evaporated milk at 204.8. Cinnamon rolls were at 195.9.

(Continued on page 395)

Rural Health Problem Areas

Communications and Transportation

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PRIMARY PROBLEMS of rural health care have been identified as manpower, transportation, and communications. Although a great deal of federal effort has focused on the distribution of manpower and the development of physician extenders, very little attention has been given to the equally important problems of transportation and communications. Furthermore, no one has really examined the total rural health system (or non-system) in light of advanced transportation/communications capabilities.

The need for these capabilities is clearly demonstrated by the problems inherent in rural isolation. The absence of facilities, such as telephone networks or even radio communications, taken for granted in an urban setting, is compounded by the vast distances involved.

It is significant that nowhere in the United States has any comprehensive transportation system been implemented, other than programs strictly related to emergency medical services. In terms of communications systems, a limited amount of HEW development money has been channeled into the exploration of Tele-Health and Tele-Medicine, but these experiments have taken place in short-distance urban settings. Due to an imputed lack of cost-effectiveness, the programs have not yet been adequately developed or funded for the rural areas where their use may be most beneficial.

In reviewing the recent history of rural health care planning, one finds that the approach has been characterized by limited planning and episodic problem-solving. The need for broader scope and planning has become painfully evident. The formulation of a coherent rural health plan is founded on a combined set of needs emanating from the rural community rather than on the basis of any one project's goals or objectives. Because no comprehensive study has undertaken the task of relating manpower needs to transportation/communications systems, there are few guidelines to follow.

In this light, a particular rural health care program in New Mexico becomes relevant. Part of the uniqueness of this program lies in the fact that it has been financed by a private industrial concern rather than by federal monies. In the summer of 1974, the Phelps-Dodge Corporation began planning a multi-million dollar flash-type smelter in Hidalgo County, New Mexico, an already medically underserved area with a population of approximately four persons/square mile. Phelps-Dodge envisioned the construction of a complete town and clinic facilities for an estimated 800 workers and their families. In addition, there were approximately 400 ranchers in the area who would have access to the proposed clinic. The eventual served population figure was estimated to be greater than 2200. The nearest physician population was 140 road miles away, at Silver City, and was responsible for providing secondary care to a 100-mile radius area in southwestern New Mexico and southeastern Arizona.

The University of New Mexico Regional Medical Program and the Department of Community Medicine evaluated population mix, health care manpower, transportation, and communications needs of this community. A preliminary proposal was submitted to the company and resulted in a contract between the company and the University of New Mexico School of Medicine (UNMSM). This contract provided for: (1) the development of a working plan for providing health care; (2) the implementation of that plan; and (3) the establishment of an evaluation program.

At the completion of the preliminary planning stage, Phelps-Dodge signed a final contract for the implementation of the health care system for the community at $380,000. A subcontract was developed with MITRE Corporation for the development of the Tele-Communication system. The company was to pay for the entire cost of the clinic as well as the personnel and implementation of the system briefly described below.

The project consisted of building an ambulatory clinic at the town site, a heliport adjacent to the clinic, and a paved air strip for plane evacuation. The ambulatory care facility would provide primary care, adequate physician supervision, and emergency care and transportation relating to both illnesses and industrial injuries. All secondary and tertiary care would be provided at secondary sites at a distance from the smelter itself.

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The physical layout of the clinic was outlined by the project director in terms of emergency capability and equipment. Emergency services would consist of two ambulances staffed with Emergency Medical Technicians (EMTs), on call around the clock. One ambulance was to be present at the town site; the other at the smelter 14 miles away. In addition to the back-up of helicopter facilities, a lighted 5,000 foot paved runway would allow the safe evacuation of critically ill patients by twin-engine aircraft.

The number and type of necessary personnel was determined by the anticipated workload. Projected needs included three physician extenders, preferably a combination of a nurse practitioner and two physician assistants who would live at the town site and provide 24-hour care to the people in the community. Unlimited access to the clinic was to be provided for the townspeople and the ranchers in the area. An average of 25 clinic visits/day was expected.

Physician support to the primary care clinic was to be provided by a physician group at Silver City via a two-way television system involving two video channels and four audio channels. The physicians were to be on call 24 hours/day for televised consultation, and visit the clinic for personal consultation two to three afternoons/week. Physician supervision included quality control of medical care, review of patient records, patient progress, etc.

The hiring of the physician extenders was coordinated so they could work in physicians' offices in Silver City for a period of eight-twelve weeks prior to being placed in the townsite. This was to ensure similar modes of operation and protocol for decision-making of both physicians and physician extenders. Uniformity of methods appeared to be essential in establishing a smooth "long distance" operation.

There was a certain amount of skepticism among many physicians as to the use of television in medical treatment. Due to the absence of physical contact between physician and patient, Tele-Medicine has been labeled "impersonal," and is often fraught with anxiety and insecurity. Admittedly, the traditional fabric of interaction is altered by the use of the technology and involves a new and complex network of relationships. Therefore, an adequate understanding of these relationships was considered a precondition for the success of the program. A planning team from UNMSM visited numerous Tele-Health projects around the country to discuss the various aspects of Tele-Health Medicine. Based on their observation, it was felt that a preliminary indoctrination of personnel at both ends of the proposed Tele-Health network was in order. Efforts in this area have since proved to be fruitful. Physician attitudes and involvement have progressively improved and have contributed greatly to the success of the system.

Central to the operation of the entire system was the provision for quality evaluation regarding health needs. The use of problem-oriented medical records was implemented and has been a key factor in the development of physician supervision, as well as the basis for an evaluation of the entire project activities during the second year.

In April 1975, the emergency clinic at the townsite was in operation staffed temporarily by a physician and Physician Assistant. By December of that year, the entire health clinic, including the television system, had been implemented. While providing some backup medical supervision, the clinic's physician began to function primarily as administrator. Correspondingly, the physicians in Silver City assumed more and more responsibility for medical supervision and care. They made regular biweekly visits to the clinic by airplane and used television consultation for intermediate visitation, examinations, and on-the-spot evaluations. State law required weekly physician visits for supervision of the care offered at the clinic. The physician's presence at the townsite was discontinued in February 1976, and by the following June, the physicians in Silver City had contracted to provide complete supervision and

TABLE I

UTILIZATION OF PLAYAS CLINIC
JULY 1976 to DECEMBER 1976

	July	*Aug.*	*Sept.*	*Oct.*	*Nov.*	*Dec.*	*Total*
Patients seen at clinic	644	688	616	574	591	627	3,740
Ambulance to Silver City	2	2	1	2	6	1	14
Telephone consultation	26	31	20	42	42	40	201
Clinic visits by doctor/mo	13	12	12	13	14	12	76
TV consultation w/patients	12	12	7	21	20	8	81
Daily log reviewed on TV	147	124	70	65	113	102	621

continuation of the project.

The original plan for the project in Hidalgo County had called for a two-year planning and implementation period. Due to both technological delays and the "debugging" nature of the process, the project was delayed ten months. Adherence to the initial time schedule, however, was basically accomplished in spite of these significant delays.

As seen in *Table I,* the utilization rate for the last six months was extremely high. It indicates a very high use of the facility, largely attributed to isolation: 83 per cent of the employees make regular use of the clinic; fully one-third of the 2,283 employees are seen at the clinic every month. At first glance, then, the acceptance level seems undeniably high. However, the issue is complicated by the fact that the patient's only health alternative would be to travel 140 miles to Silver City, for personal contact with physicians. Therefore, it is significant that 17 per cent choose this alternative and forego the convenience offered by the clinic facility. In this light, we note that almost all of the Phelps-Dodge employees in New Mexico, having transferred from other similar operations, were accustomed to a different mode of health care. At their other mining sites, Phelps-Dodge had provided physicians (rather than Physician Assistants) and hospitals (rather than an ambulatory clinic). The question of acceptance levels remains unanswered at this time. And it is felt that the utilization patterns will reveal themselves more clearly after more time and study.

In broader terms, the objective to provide satisfactory health care to the Phelps-Dodge employees, their families, and the population in the area has been met. Moreover, physicians who were initially skeptical in their acceptance of Tele-Medicine are now supportive of its use. Their participation and implementation of sound evaluation techniques have been crucial to the overall success of the program.

In addition to meeting the specific needs of this community, the Phelps-Dodge health program carries with it implications for the rural health scene in general. We have learned that: (1) advanced communications systems do have a place in facilitating manpower use; (2) while transportation needs in a rural setting vary, adequate transportation must be appropriately included; and (3) the use of problem-oriented medical records are of substantial value in developing quality controls and are an aid to both efficiency and evaluation. The success of the Phelps-Dodge project is attributed to its recognition of *each* of the problem areas of rural health (manpower, communications, and transportation) and the implementation of concrete solutions to these problems. In short, it has been an attempt to translate an overall concept into reality.

THE MENNINGER FOUNDATION

Continuing Medical Education for the Physician

General Psychological Principles for Primary Care Physicians: October 4-7, 1977. The seminar will cover principles of psychological growth and maturation, and the major psychological diagnostic categories (anxiety, depression, organic brain syndrome, schizophrenia, etc.). Emphasis will be given to diagnosis and treatment techniques. Dean Collins, M.D., recent past president of the Shawnee County Medical Society, will be the seminar leader.

Psychological Medications for Primary Care Physicians: November 11-12, 1977. This seminar will afford an overview of the types of psychotropic medications and their uses, their side effects and how drugs interact with one another. Robert Obourn, M.D. will be the seminar leader.

Alcoholism: Pathways to Understanding and Recovery: November 17-18, 1977. This seminar is for physicians who desire understanding of goal-setting and effective treatment of alcoholism seen in their daily practices. George Penn, M.D. will be the seminar leader.

CME credit available. **All workshops will be in Topeka, Kansas.**

For further information about any of the above seminars, please contact: June Housholder, Division of Continuing Education, The Menninger Foundation, P.O. Box 829, Topeka, Kansas 66601. 913-234-9566, ext. 3685.

Fact and Fantasy

Solids and Infant Nutrition

RICHARD A. GUTHRIE, M.D. *and*
JAN RIORDAN, R.N., *Wichita*

"LESS IS MORE," a phrase of the idealistic young is well suited for a discussion of early solid feeding for infants. As we pointed out in our first article on infant nutrition (September 1976), feeding trends come and go as new evidence presents itself to the scientific community or as consumer pressures and preferences impose themselves on physicians.

Historically, infants were nourished only from their mother's breast until the infant, ontogenically ready, began to reach out for food as the family or tribe gathered to eat. Nature's cues for the introduction of solid food were the eruption of teeth, the ability of the baby to sit, and the development of purposeful musculature movements of the baby's hands and fingers. All these activities occur during the middle months of the first year of life. Jelliffe[1] supports this natural pace by suggesting that a baby is really an external fetus during the first six months after birth, with the breast acting as an outside placenta. Solid foods, then, have a *raison d'etre* only at the end of this exterogestation.

"Pap" gruels, the forerunners of the recent practice of early cereal feeding, were first recorded as being used in the 17th century, often with disastrous results. Figures compiled in Dublin during the last quarter of the 18th century indicate that 99.6 per cent of hand-fed babies died. Pap was basically liquid plus cereal, and could be bread crumbs and water, rice and broth, biscuits and beer, or flour and wine. These mixtures did not contain enough calories for the infant, because they had to be watered down to allow the gruel to pass through the hole in the receptacle.[2]

Fifty years ago, because of pasteurization and in complete disregard of the recalcitrance of physicians at that time, the milk of herd animals gradually began to successfully replace breast-feeding as the method of infant feeding in our culture. Since additional vitamins and nutrients were needed to supplement the milk of domestic animals, solid foods or *Beikost* (foods other than milk or formula) were introduced earlier with each decade. A competitive spirit developed among mothers to outdo one another in initiating solid food, as though the rapidity with which an infant could eat adult food measured his maturity. Maternal conversation went something like this: Q. "What age did your baby start eating meats?" A. "Mine began eating it at two months."

In 1935, Marriott recommended that six months was the optimal age for introducing beikost. The AMA Council on Foods stated two years later that pediatricians favored the feeding of strained fruits and vegetables at age four to six months, but these recommendations went unheeded. Industry, eager to capitalize on a potential market, introduced the first canned, strained commercial baby food during the 1930s.[3]

Warnings that this early introduction of solid food was not substantiated by sound pediatric nutritional principles but was, rather, the result of empiricism and competition were voiced by only a few far-seeing and alert pediatricians. One of them, Paul Gyorgy,[4] warned in 1957: "One of the important contributing factors in the matter of early addition of supplemental food to an infant's diet is the widespread *insistence of the mother*. This custom is spreading widely in modern pediatric dietetics. The argument, however, that semi-solid foods may accelerate the anatomical and physiological development of the digestive tract is not supported by the study of normal growth. The first teeth appear at the age of five to six months, a clear indication that the infant is not dependent on mastication before the end of the first half-year of life."

Contrary to popular thought, feeding cereal to the infant with a spoon in the evening does not influence the breast-fed baby's tendency to sleep through the night, as long as he is given as much milk as he needs or desires. The common pattern of increased nursing needs toward evening has evolutionary roots. In pre-agricultural times, a woman's work consisted of food-gathering and walking to keep a safe proximity with the tribe. Only in the evening, when the tribe had returned to a safe sleeping area to spend the night, was the infant continuously accessible to his mother's breast.[5]

Most infants will at first actively resist the advances of even the most enterprising mother in her attempts to spoon baby food to him during the early months of

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life. Before four to six months, a baby has a poorly developed tongue reflex and is unable to push food to the back of his mouth. The newspaper cartoons of a triple-bibbed baby propped in a high chair surrounded by a wide circumference of newspaper quintessentially reflects an unpleasant reality.

Toleration of early solids is not evidence that early introduction of solids is advantageous. In fact, the practice may initiate a chain of disadvantages and, possibly, dangers.

For the breast feeding mother-infant dyad, the early introduction of solids poses the certainty of disruption of the sensitive equilibrium between supply and demand; the more solids ingested by the baby, the less he will take from the breast; the less he takes from the breast, the less milk there will be.[6] Therefore, especially for the breast feeding infant, beikost should be withheld until milk production is firmly established at four-six months.

Allergies

The relationship between the time of solid food introduction and allergies has not been conclusively established but IgE, the antibody associated with allergy, rises in direct time sequence to the introduction of solid foods. IgE is also associated with skin test positive allergy later in life. The theory to explain this phenomenon is that prior to age four-six months, the infant's intestine lacks appropriate digestive enzymes to completely digest complex proteins and starches down to amino acids and simple sugars. At the same time, the infant's intestinal mucosa is permeable to some intact proteins and starches. These incompletely digested peptides and starches can be absorbed and serve as sensitizing agents to the infantile immune system. IgE is then produced and allergy results in some, perhaps many, infants.

Glaser[7] and others[8, 9] have recognized that when solids, especially wheat, egg white, pork and legumes are withheld from the potentially allergic child until the immature physiologic immunity period has passed, the symptoms are minimized or even prevented. At age six months, the infant produces sufficient IgA antibody to prevent absorption of food antigens through the intestinal wall, thus reducing the incidence of food allergy symptoms.

Interestingly, rice cereal is often the first solid food introduced because it is "least allergenic." Recent studies, however, indicate that the amylase enzymes, which appear at about age six months and are needed to digest the starch of rice cereal, are the last enzymes of the intestinal tract to develop. Perhaps we need to rethink not only the time of introduction of solids but also the sequence.

Iron

Part of the diminishing rationale for advising early solids in breast feeding infants is concern for iron deficiency anemia, although it has been demonstrated that before age four months supplementation has no effect on the hemoglobin of normal infants.[10]

Within the past year, research by McMillan[11] and Woodruff[12] has shown that iron in breast milk (0.5-1.0 mg/1) is more efficiently utilized than iron in cow's milk. This significantly higher absorption (49%) presumably is due to the higher content of lactose and Vitamin C in human milk and the lower content of phosphorus. Breast milk augments the iron supply endowed in utero until its depletion at about age four-six months.

In 1976, the Committee on Nutrition[13] recommended that iron supplementation need not start before age four months. Since breast feeding is rarely associated with iron deficiency, a somewhat longer delay in initiating solids in those infants with adequate hematocrit levels may be indicated. If an iron supplement is necessary, oral therapy with simple ferrous salts given between feedings provides an inexpensive and satisfactory response.

Natural Child Spacing

Early solids have yet another disadvantage: the disruption of family planning. The contraceptive value of lactation is most effective when, in the early months, the infant receives only human milk. Studies of hormonal blood levels have shown that the secretion of prolactin, controlled by the pituitary, suppresses ovulation.[14, 15] Higher levels of prolactin are positively correlated to the amount of sucking stimulus to the mother's nipples. For the infant receiving supplementary nutrients, the sucking time and thus the contraceptive effect are greatly reduced.

In less technically developed countries, where contraceptive alternatives are not as available as in the United States, the impact is staggering. Taiwan scientists estimate that lactation has prevented as much as 20 per cent of births that would have otherwise occurred. In India, the same ratio would mean the prevention of approximately five million births/year.[16]

Obesity

The early introduction of baby foods is becoming a crucial variable in the rise of obesity as a major disease of developed countries. Vigorous debate and speculation is now going on as to the onset of excess adipose potential.[17]

Although contingent on many factors, including genetics, metabolic, socio-economic and psychological as-

pects, babies are gaining weight more rapidly now than ever before; this is reflected in the changes made in the centile charts over the past 20 years. At present, approximately 15 per cent of the infants seen in our practice are obese.

Unless breast fed, most infants receive solid foods before the end of their first month, and 90 per cent are eating solids by age two months. Bottle fed babies tend to double their birth weight during the first two months, while breast fed babies gain less rapidly and seem to maintain an optimal balance of length and weight.[18]

The potential for obesity increases with the addition of solids, because there is a tendency for mothers to force food by encouraging their babies to finish the jar of baby food without taking satiation cues from the baby. This force-feeding is complicated by a possibility that the appetite-controlling hypothalamus functions by volume, rather than by caloric intake during the first six weeks of life.[19] Thus, the use of solid foods much higher in caloric density than milk or formula may lead to the tendency to lay down excess fat.[20] In addition, this persistent food reward system establishes the conditioning of a behavior pattern that can lead to overeating for the rest of the individual's life.

Another danger is the recent hypothesis of the "fat cell theory," which proposes that the adipose cell size and number are determined during the first year of life. The number of fat cells in turn determines the eventual size of the adipose organ.[21, 22] Overfeeding, which is frequently associated with the early introduction of solids, may have a long-term and perhaps a permanent effect on obesity in later life.

This theory is substantiated in a study reported by Charney.[23] Results of that study showed that 36 per cent of a group of infants whose weight exceeded the 90th percentile became obese adults, whereas only 14 per cent of the average (25th-75th percentile), and light (below 10th percentile) infants became obese adults.

Solid Foods—When

When is an infant ready for solid foods? Dr. Paul Gyorgy, a Nobel laureate, has suggested that an infant is ready for solid foods when he is able to open his mouth anticipating intake when food is proferred to him. At age six months, most babies can sit in a high chair and begin to eat selected foods from the family dinner table.

What foods should be started, when? If one waits until age six months, as is here strongly recommended for all infants, then the sequence of solids is of little importance, since digestive enzymes are ready. Legumes should be last. If solids are introduced earlier, and it is urged that they be delayed for all infants until at least four months of age, then the order may be as follows: fruits, meats and cereals, yellow vegetable, and lastly green vegetables (legumes). Each new food should be fed for at least one week before a new one is added, to test for allergy.

The one solid food that may be introduced earlier, especially in the artificially fed infant, is egg yolk. This food is high in protein and iron and is very hypoallergenic (egg white albumin is highly allergenic), and is therefore safe. The only objection to early feeding of egg yolk is its cholesterol content. New data, however, indicate that a high cholesterol diet in early infancy may be desirable to induce liver enzymes needed later in life to better handle a cholesterol load.

Commercial Baby Foods

There are now over 400 varieties of baby food available on the market. In 1970, 2.7 billion jars were sold; in 1976, probably due to a drop in the birth rate and because of a burgeoning interest in home preparation of infant food, the number fell to 2 billion. Commercial baby food is generally produced by pulverizing fruit, grain, vegetable, and meat ingredients with water. Many of the baby food processors comply with the standards set up by FDA; others do not. Of 97 baby food plants selected at random by the General Accounting Office in 1973, only 30 met FDA standards.[24] Keeping commercially prepared foods pure is almost impossible. It has been reported[25] that a recent test revealed insects and rodent hairs. Enamel chips were also found in jars of baby food, due to a deficiency of design of the container.

Under the present feeding patterns, each infant consumes approximately 500 jars of baby food each year. Assuming that each child born throughout the world will eventually consume equal amounts, the economic drain of world energy resources would be overwhelming; yet, commercial companies are aggressively promoting sales of baby foods in developing countries around the world.

In the typical selection of strained foods purchased by the average mother, approximately 80 per cent of the calories are in the form of carbohydrates,[26] such as chemically modified starch and sucrose. This is particularly true in combination foods, such as Heinz's Beef and Bacon. The caloric density of these products is about three times that of an identical home-prepared portion. Before a modified starch is approved by the FDA for human use, digestibility studies are carried out on weanling rats. One cannot help but wonder if the gastrointestinal response of the relatively mature

rat weanling can be extrapolated to that of the relatively immature human infant.[27]

Foods other than milk or formula account for approximately one-third of the total[28] caloric intake, in four-month-old, bottle fed infants. This regular eating of sweetened foods in infancy probably institutes an early imprinting of taste preferences that continue into childhood and adulthood.

The addition of salt to infant foods appears to be done for palatability (for the mother, since the infant's taste buds are not developed until about age 7 months). Salt, like other ingredients such as starch and sugars, is not based on any pediatric nutritional guidance. Concern, because of possible correlation with hypertension, prompted the National Academy of Science-National Research Committee, in 1970, to recommend that the level of salt be limited to 0.25 per cent. Even the reduced amounts may be excessive. As the appropriate standard, human milk contains 0.9 mEq/100 cal., while commercially prepared meats average 7.0 mEq/100 cal.[29] Until recently, 65 per cent of the baby food from three leading manufacturers contained salt.[30] However, in January 1977, in a frenzied competition to have the most natural product, Beech-Nut announced the removal of salt from all of its 131 items, and sugar from 84. Nine days later, Heinz announced the removal of salt and sugar from many of their varieties, and Gerber soon followed suit.

Home Prepared Baby Foods

As a consequence of the "Less is More" naturalistic movement in our society, young families are more frequently preparing foods for their infants. These foods are not only more wholesome and nutritious but are also more economical. Food cost differences between commercially prepared and home prepared, if started at age six months, are estimated at $67.34 in the first year.[31] Carrots and applesauce, for example, cost about one-half the store price when prepared at home. Beef and chicken blended in the kitchen provide more nutrients by weight than their commercial counterparts, chiefly because they contain less water.[32]

With the aid of an electric blender, fork, food mill or grinder, preparing baby food is easily accomplished. These foods should be selected from high quality fresh, frozen, or canned vegetables or meats with special attention to hygenic preparation and storage. For convenience, individualized, small portions can be stored safely in the refrigerator or freezer for reasonable periods. There are several excellent references on home preparation that are available to mothers.

Summary

Community concerted action to educate families to the dangers of overfeeding can have appreciable results. In Sheffield, England, a public campaign to encourage breast-feeding and to avoid the premature initiation of solid food was successful. In five years, Sheffield increased the rate of breast-feeding at age six weeks from 10 per cent to 30 per cent, with only 20 per cent of the infants receiving solids at this age, compared with 90 per cent at the beginning of the program.[33]

No rational or scientifically documented nutritional reasons have as yet been put forward to justify the introduction of solid foods to infants prior to the middle of the first year of life. Several reasons (phylogenetic, ontologic, behavioral, allergenic, and obesity) have been documented to indicate a lack of need, and stress the dangers of early solid food introduction. An exciting challenge to medical practice is that if one can influence optimal nutrition in the first few months of life, the baby will benefit for the rest of his life, and these benefits will be passed on to future generations.

The early use of beikost is a social, not a nutritional, phenomenon and should be strongly discouraged on nutritional grounds by physicians. Physicians should be teachers and leaders in good health practices and nutritional principles, not followers of social trends.

References

1. Jelliffe, Derrick B. and Jelliffe, E. F. Patrice: Duration of breastfeeding. *Lancet* 1:752, 1972 (March 29).
2. Phillips, Virginia: Infant feeding through the ages. *Keeping Abreast Journal* 1:296, 1976.
3. Foman, S. F.: *Infant Nutrition,* ed. 2. Philadelphia, W. B. Saunders Co., 1974.
4. Gyorgy, P.: Trends and advances in infant nutrition. *W. Va. Med. J.* 53:121, 1957.
5. Anderson, A.: Ancient processes in a scientific age. *Child & Family* 10:4, 1971.
6. La Leche League, International: *The Womanly Art of Breastfeeding.* ed. 2. Franklin Park, Illinois, Interstate Publishers Inc., 1963.
7. Glaser, J.: Prophylaxis and allergic disease in infancy and childhood. *Allergy and Immunology in Children,* Charles C Thomas Co., Springfield, Illinois, 1973.
8. Rosenberg, Tom: *Breast milk and the potentially allergic child.* Conference on Breastfeeding and Infant Nutrition, Wichita, Kansas, 1975.
9. Fruthaler, G. J.: Can allergy be prevented? *So. Med. Jr.* 58:836, 1965.
10. Jackson, R. *et al.:* Nutritional requirements of infants and children. *Ped. Clin. N. Am.* 9:879, 1962.
11. McMillan, J. A.: Iron sufficiency in breast-fed infants and the availability of iron from human milk. *Pediatrics* 58: 765, 1976.
12. Woodruff, C. W. *et al.:* Iron nutrition in the breast fed infant. *J. of Ped.* 90:36, 1977.
13. Committee on Nutrition: Iron supplementation for infants. *Ped.* 58:5, 1976.

(Continued on page 398)

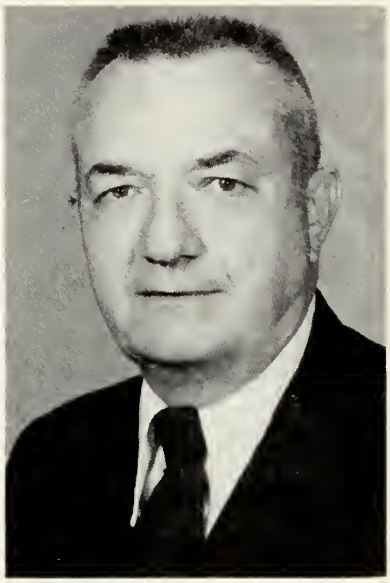
The President's Message

Among the issues facing the Kansas Medical Society are the following:

1. *PAs.* An interim committee of Kansas Legislature is currently studying legislation to allow Physician's Assistants to write prescriptions without a physician's authorization. The Kansas Medical Society does not believe that this would be in the best interest of the citizens of Kansas. We feel that a physician should be in control of and accept the responsibility for the actions of his Physician's Assistants, including their writing of prescriptions.

2. *Recruitment* of primary care physicians for areas deemed underserved in the state of Kansas. We feel that the Kansas Medical Society should take the lead in establishing a positive approach to solve this complex problem. Senator "Wint" Winters and Representative Mike Hayden are sincere in their efforts to ensure that medical care is provided in underserved areas; they are to be commended. The KMS has joined with KUMC, and is actively seeking a logical answer to present to the legislature.

3. *Cost containment.* Physicians are often closely linked to hospital expenses because of the hospitalization of their patients, prescribing of medical tests, medications, and therapeutic modalities. Medical expenses in the private physician's office are increasing weakly, but weekly. We have met with Senator Dole and with members of the Kansas Hospital Association to consider possible ways to hold down the increasing medical expenses. We have considered better utilization of hospitals, ancillary medical personnel, and more home health care. An ad hoc committee, composed of members of the Kansas Medical Society and the Kansas Hospital Association is being formed to study this issue in depth and arrive at positive approaches for cost containment.



Fraternally yours,

John D. Huff M.D.

President

The Virtuous Vice

The connection may seem obscure to any but those of minds as devious as ours, but we are able to read a pertinent comment on the changing role of the physician in an article in the June 13 issue of the *JAMA* by John M. Rhoads, M.D. The subject is overwork. He presents a series of case reports and discussion to support the concept of this condition as sufficiently damaging in some personalities as to warrant syndrome status. As a psychiatrist, he is interested in identifying those personality elements which convert the activity to a pathologic state, and he comments on the fact that the literature reflects little attention to the matter as an entity. This can be explained in part by the fact that the medical profession has been preoccupied with the physical ravages of work —which it has been treating directly—rather than the psychological aspects to which it has given only indirect attention.

But our interest was drawn particularly to the fact that in the author's series of some 15 cases there are eight physicians. While the series is too small to establish a distinct entity, and we can't assume that this proportion is valid for the whole social gamut, physicians will probably have no trouble in believing such a ratio to apply to the whole scene. If there is one common denominator which binds physicians together, it is the belief that they work longer and harder than anyone. Whenever criticism is leveled at their incomes or lack of proper consideration for their patients or unavailability or whatever, the physicians' first defense is to proclaim how hard they work. That it has become a professional cliche, however, does not detract from the fact there is some truth in the general medical conviction that overwork is the appropriate condition for the medical practioner. Physicians consider it inextricably incorporated into their patient-care obligation, and the colleague who fails to give the full measure of effort is frowned on more than the one whose ability may be less but whose effort quotient is high.

One of the main reasons overwork is not usually recognized as a contributor to delinquency is its characteristic association with virtue. In the ethics which dominate our society, work is virtuous and consequently more work is more virtuous. It tends to increase the material elements of life, which is good, and inspires favorable comment, which is better, and presumably quiets the devils within, which is best. But this is the dangerous phase—the devils are quiet only because they know they are about to hook another soul. When a physician does attract attention by an excessive indulgence in work, his colleagues initially dismiss it as his own business, not a warning of impending disaster. As Dr. Rhoads points out, medical service is an ideal area for the overwork phenomenon to thrive since it is open-ended—except for certain structured situations, there is no specific limitation to the work period. And if it is difficult to get physicians to bear witness against their colleagues with other deficiences, how much more difficult when the offending agent is universally approved. The essential moral obligation implied in the offering of medical care promotes unlimited demands.

Overwork, then, is characteristic of medical practice because of this open-endedness, its implication of greater service and, to some extent, the response of a chronically short supply to an insatiable demand. In the medical scene the physician can act out his compulsive role and if one of us seems to be marching to an uncompromising drummer, we tend to discount his pace and ignore the pattern.

That the public approves of the pattern is clear. Even as it complains bitterly about the unavailability of physician care or the interminable waits for it, the individual patient takes pride in having an overworked physician rather than one with time on his hands. Even as he grouses about physicians' incomes, he enjoys the status of calling attention to the fact that his physician drives a Cadillac rather than a beat-up VW.

Our failure to define the physician-work addict before this stems not only from his lack of visibility within the group but the fact that he has not infrequently appeared in the other role—the pharmacologic addict. The history

of the latter not infrequently includes a phase of unrelenting performance leading to the use of stimulants to keep going, the subsequent resort to depressants to counteract them when rest becomes essential, then a resumption of the cycle to a point of destruction. And the factor of availability of these agents to the physician-victim has long been recognized as contributing to the frequency of addiction in physicians.

True, there has been some movement toward the division of labor and time, which seems to indicate a willingness of more and more individuals to foresake the dedication to exhaustion. Even as one group—often the older ones though it is by no means generational—proclaims overwork as the one true measure of devotion and criticizes those who pursue the altered professional life style, the other proclaims a greater productivity as a result of the good life and insists the public must be taught to accept the change as well. A share-the-burden plan is no guarantee of security against the strains of overwork, however. One of Dr. Rhoad's physician-patient was, in fact, pursuing his destructive course while a member of a partnership—and despite his partners' admonitions that his disability was more harmful to the group than his additional service was helpful.

The public (in the interpretation of its media representatives, at least) has become increasingly demanding that the profession eliminate those members whose habits, age, or lack of ability pose a threat or produce less than satisfactory results. With pressure from within as well as without, physicians have assumed greater responsibility for identifying and attempting to rehabilitate their "disabled" comrades. Perhaps the significance of this report lies in the implied prophecy that one day this overworking physician will come under the scrutiny of the review board as a potential or actual danger. It appears that as this investigative-disciplinary-rehabilitative-eliminative function of the profession assumes greater substance and effect, the personalities of all physicians will be subject to its attention.

After all, the parallels between overwork and the other destructive addictions are more than casual. Nearly all start with a socially approved activity. Capacity for work may well be a recommendation which helps the medical student gain admittance to the club—no more evidence of a potential for excessive involvement than, say, the occasional drink to the future alcoholic. Social tolerance lasts longer than it does for the other addictions and, even if the overwork addiction is less obviously destructive and slower in effect, the direction is the same. The insistence that there is no problem, the evasions, the alienations—and effect on the family—are of the same pattern.

But the parallel breaks down and presages the fact that we must accept a negotiated solution when we consider the objectives of therapy. The goal in the treatment of pharmacologic addictions is, of course, complete and continuing abstinence (admittedly achieved with regrettable infrequency). Translated to the work idiom, this would mean that the effort was aimed at complete indolence, which suggests a potential for almost as much grief as the addiction—and a state which few are financially prepared to assume permanently. Thus, the success of the effort would be measured by the increasing number of physicians on welfare. Even this poses a threat, since the non-addicted colleagues would have to work harder to meet the increasing tax bill, thereby becoming addicts and candidates for the same therapy.

So we are involved in a high risk activity with an undetermined number of high risk participants, and how shall we resolve the threat to both—and the public as well? The fault is in the person, so only there can therapy be applied to effect. And since the addicting agent is an essential of life—perverted but still essential—the goal of therapy must be consciously short of abstinence.

Are there enough psychotherapists to carry the load—without themselves becoming casualties? Practice methods presuming to ease the stresses of professional demands are not effective if the subject is not receptive. Since it is an internal problem, the Catch-22 aspect of the matter appears: if the subject would respond to our rehabilitative program, he wouldn't have been a subject in the first place. The changing role we alluded to in the beginning is simply this—in the past, we didn't know we had a problem.

Well, back to work.—*D.E.G.*

DIVIDENDS AVAILABLE ON WORKMEN'S COMPENSATION INSURANCE

With so many operating costs reaching new highs these days, you are probably looking for good ways to reduce overhead expense. We recommend that you investigate the dividend program for Workmen's Compensation Insurance approved by the Kansas Medical Society.

Participants in the program pay standard rates initially as required by law, but get back part of their premium as savings (dividends) depending on claim experience.

Physicians using the Savings Plan in other states, such as Minnesota, have earned yearly savings of 35-40 per cent or more.

Success of the program depends on how well policy holders are able to prevent injury accidents. Recommendations from safety experts help participants earn a good record and receive maximum dividends.

The dividend program is underwritten by Casualty Reciprocal Exchange, a member of the Dodson Insurance Group, P. O. Box 559, Kansas City, MO 64141, and is not available from other insurance sources.

Vox Dox

Vox Dox Editor:

I am not a physician so perhaps I have no business addressing a comment, particularly a critical one, to the author of an editorial in a medical journal. I am referring to the message on Laetrile in the June issue of the Kansas Medical Society *Journal.*

My criticism of your editorial does not involve the merits of Laetrile itself. The government agencies and the medical organizations say that it has not been demonstrated to be effective in treating cancer and I am satisfied that it has not. However, I do think your editorial overstates the consequences of Laetrile's legalization by the states or even by the FDA. I see no basis for expecting the radical changes in cancer therapy that seem to be foreseen if Laetrile is legalized.

As you noted in the article, the patient who receives a diagnosis of cancer frequently regards it as a death sentence and the intensity of the drive to make Laetrile available is certainly a function of the desperation felt by many who are so diagnosed. In those circumstances, it seems unrealistic to expect a patient to spurn conventional therapy and place all his hopes on Laetrile. Your own assessment suggests a patient will try anything. My own thinking is that the patient will supplement conventional treatment with Laetrile, and your own description of the typical patient's attitude is consistent with that expectation.

I noted also your reference to "the provision of a therapeutic regimen . . . by legislative fiat." This phrase, of course, accurately describes the very function of the drug division of FDA. The governmental authority, rationale, and purposes that keep Laetrile off the interstate market are identical to those that keep a variety of beta-blockers and other useful drugs off the American market. I am only pointing out that the ban on Laetrile binds the doctor as well as the patient. Certainly, a statute or regulation that bars a therapeutic regimen is as much a legislative fiat as legislation that is permissive and allows those concerned with a situation—management of cancer—to exercise their judgment.

Lastly, I see no justification for the claim that legalization of Laetrile puts the patient in the position of dictating his therapy. No patient is empowered to instruct his physician to prescribe Laetrile merely because a legislature permits its manufacture, sale, or use. The physician remains in charge of his own practice. Of course, the patient is free to disregard the counsel of his doctor, a situation that would not be changed no matter what legislatures say about Laetrile or any other matter. Following the advice of one's doctor is not yet compulsory in the U. S., and I'm certain you share my hope it never will be.

I have been at a loss throughout this controversey to see what any doctor has to lose by legalizing Laetrile. I presume a conscientious physician will still be guided by his medical judgment in prescribing therapy or drugs for his patients. In this respect, the very governmental power that keeps Laetrile off the market is a greater threat to the physician than Laetrile is.

ROBERT WARD
9012 Tilman Rd.
Oklahoma City, OK

What's Up?

(Continued from page 384)

For the youngsters' snacks, the price of a cola drink was at 194.2; chocolate bars were at 233.5; cookies were at 189.6. The price of taking the kids to the movies, incidentally, hit 193.8 on the CPI.

The dinner table was affected by higher prices: potatoes (200.1); rib roast (188.4); whole ham (199.6); seafood (227.3). Bacon for breakfast was at 210.4; sausage at 226.6. American cheese, popular in lunch boxes and picnics, was at 198.6.

Prices of household utilities were up: heating fuel oil or coal (250.8); gas (200.9); residential water and sewerage services (188.7).

Prices of many of the amenities of life have risen: toilet soap (193.5); women's haircuts (186.6); china dinnerware (190.6).

Bathroom tissue was at 234.4.

Of course, prices aren't the only things that have gone up. Incomes have risen, too. Per capita income after taxes has more than doubled since 1967, for an index of 202.0 in 1976.

And Social Security taxes have risen faster than either consumer prices or incomes. An index for the maximum Social Security tax on employees (if the government published one) would have been 308.2 in 1976 (1967=100). For 1977 the maximum Social Security tax index would be 332.4.

Eleven Ways

(Continued from page 366)

staff to investigate all incidents and maloccurrences, to make sure that the patient is helped in the most aggressive, concerned and sympathetic manner, and to prevent similar occurrences in the future.

Finally, there is no substitute for care with caring. An honest, concerned, sympathetic attitude is your number one preventive measure—develop it.

THE SATURDAY EVENING POST FIBER & BRAN BETTER HEALTH COOKBOOK, by Cory SerVaas, M.D., Charlotte Turgeon and Frederic A. Birmingham, Curtis Publishing Company, Indianapolis. 1977. 320 pages, illustrated. $12.95.

The book is described as the key to a zestier and happier life. "Take a full measure of today's scientific thinking on fiber in your diet, boil it down with common sense, and warm with the flame of creative cookery . . . to please the palate, placate the purse and reward you with true joie de vivre." The 334 recipes range from "Morning Glories, Pancakes, Waffles, and Coffee Cakes" through many kinds of breads and muffins, salads, entrees, desserts, candies, soups, and on to microwave cookery, a low calorie diet, and an extended reference chapter listing the fiber content of a wide variety of foods.

Dr. Denis Burkitt, famed for his African research on nutrition and diseases resulting from a lack of fiber in the diet, states in a Forward how our society is facing a Pandora's box of often fatal diseases connected with improper eating habits. The book is a guide to more healthful planning. Illustrations include a number of full-page full-color reproductions of natural food still-life paintings by Salvador Dali, Millet, Thomas Hart Benton, Gaugin, Monet, and others. The editors have written an authoritative work on a subject of increasing contemporary public interest, and combined this with an abundance of imaginative, tested recipes which blend the pleasures of dining with a sensible dietary program on all phases of high fiber food preparation.—*V.B.*

DIABETIC COOKING MADE EASY, by Virginia M. Donahoe, Burgess Publishing Company, Minneapolis. 1973. 72 pages, $3.95.

This cookbook is well written and easy to understand. It would be very useful to the person with adult onset type diabetes. However, the patient with juvenile or insulin dependent diabetes should be careful to discuss several factors with his doctor. Worthy of review are the following ideas:

1. The exchange lists have been revised recently, and the book contains the older lists;

2. Doughnuts, cookies, etc. are included in the list of allowed foods. Many physicians do not allow some of these foods and they should certainly be discussed with the doctor before the patient eats them;

3. Pumpkin is listed in one area as a fruit exchange and in another area as a vegetable and a bread exchange. This could be confusing unless carefully explained;

4. Lemons and limes are listed as one fruit exchange. Some diabetic diets list them as free foods;

5. Figuring the amount of carbohydrate, fat, and protein on canned goods was mentioned, but needs a more detailed explanation;

6. Sugar substitutes are listed as free foods. However, patients have to be aware that the calories in sweetened foods have to be considered;

7. The physician should be consulted before using any alcohol, beer, wine, etc.;

8. The recipes included in the book are very good, but there seems to be an abundance of desserts. Most patients would probably prefer more meat, casserole, or vegetable recipes.

The book is very attractive and reads well, but the reviewer would hesitate to recommend it to a brittle juvenile diabetic without considerable explanation.—*W.N.*

DIET AWAY YOUR STRESS, TENSION, AND ANXIETY, by J. Daniel Palm, Ph.D., Doubleday & Co., Inc., Garden City, New York. 1976. 204 pages.

Diet Away Your Stress, Tension, and Anxiety with a fructose diet, says J. Daniel Palm, Ph.D., in his recent book published by Doubleday. Educated in human genetics and currently serving as associate professor of biology at St. Olaf's College in Northfield, Minnesota, he is qualified to research the physiology of fructose as a dietary food and interpret the results.

Palm researched a group of normal healthy subjects. Of the sugars eaten, fructose produced a slower rise in the serum glucose, and maintained it at a lower level and longer than comparable test doses of glucose or sucrose. Likewise, when 100 gm of fructose replaced the sucrose and glucose in the usual weight sustaining diet, fewer waste catecholamine products appeared in the urine. Concerned that fructose might initiate the

production of fats, he measured the cholesterol and triglyceride levels and found they did not change.

Palm interpreted his studies to mean that the rapid absorption of glucose quickly elevates the serum glucose to a high level. This high level stimulates the production of large amounts of insulin, which then initiates glucose storage and the rapid development of hypoglycemia. The hypoglycemia now becomes a stress response. It threatens to deprive the central nervous system of its only food and source of energy. The hypothalamus responds to this threat by releasing hormones that include the adrenocorticotrophic hormone. In response to this hormone, the adrenal gland responds by producing catecholamines that mobilize stored glucose.

Fructose, the author contends, does not incite the production of insulin but maintains the serum glucose level optimum enough to meet the metabolic needs in the nervous system.

Alcoholism, obesity, migraine headaches, hyperactivity, hypomania, and schizophrenia represent in part at least stress-related disorders. Management of hypoglycemia, he believes, may not necessarily represent a restorative treatment, but it can enhance the effectiveness of other therapies.

Palm has presented in his book, along with recipes using fructose, an interesting concept. The reviewer was able to find fructose only in a few health food stores where it sells for $3.77/lb in granular form. As wafers, it sells for $4.95/100 wafers, each containing 1.5 gm of sugar. Fructose wafers obtained from health food stores would cost about $15.00/lb and $3.33/day to provide the 100 gm of dietary sugar the author recommends for his diet.

One typographical error was discovered. The sentence on page 81, line 27, reads: "Previously, fructose was obtained by splitting the polyfructose molecule, insulin, . . .". "Insulin" should read "inulin."

More attention to style might have improved readability. The modern use of eponymic abbreviations interferes with reading continuity and wastes the reader's time hunting for the definitions. Authors should define all abbreviations at some convenient point in the book, such as the inside cover or on the flyleaf where reference is easily made.

Weak verbs fill the first paragraph and a half of the first page. Nothing grabs the eye of the undecided reader more than vigor growing out of strong verbs. The style might have been further improved by attention to repetition, arrangement, argument, and comparison. Strong, vigorous verbs reduce the necessity for repetition, while the use of content strengthens the concept for assimilation.

Palm's thoughts on fructose physiology provide interesting and are worth reading. Whether this physiology can be adapted to the management of behavioral disorders, headaches, and obesity remains to be tested.—*J.R.C.*

TV VIOLENCE

The American Medical Association is continuing its campaign to stem television violence. The AMA Board of Trustees has voted financial support for three projects totaling $147,329.

The Board approved $107,438 in funds and services over a three-year period in partial support of the Violence Index and Profile developed by George Gerbner, Ph.D., and associates at the Annenberg School of Communications, University of Pennsylvania. This study analyzes and reports on network television trends and viewer conceptions of social reality.

Also authorized was $32,116 to be allocated to the National Parent-Teachers Association for the development of a public report outlining various components of PTA's TV violence project. The report will be dis-

(Continued on next page)

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tributed to PTA units, the media, and interested individuals and organizations.

The AMA made an additional grant in the amount of $7,775 to the National Citizens Committee for Broadcasting to support a six-week rating study of the late spring television programming. A media reform group based in Washington, D. C., the NCCB is concerned with documenting the amount of TV violence portrayed in prime time network programming. The Gerbner definition of violence is the basis for the TV violence monitoring studies conducted by NCCB, which the AMA also financed last fall.

AMA's support of the Violence Index and Profile will encourage its use through wide dissemination of this independent scientific measurement of trends in network television dramatic programming. The index measures different aspects of the frequence and rate of violent actions and characterizations. The Profile also includes information about the possible impact of these trends. Gerbner's definition of violence is "the overt expression of force compelling action against one's will on pain of being hurt or killed, or actually hurting or killing."

During the fall 1976, the NCCB conducted two parallel studies, one based on the Gerbner definition and the other on the industry-suggested definition. Since there was no significant difference in ratings, the NCCB released its findings based on the Gerbner definition of violence.

The PTA has launched a massive project to curb the amount of violence in television programming. Last winter, the PTA conducted eight regional public hearings on this subject. AMA's grant will enable the PTA to prepare and disseminate a full report plus a summary document detailing its activities in this area in the next few months. Two hundred full reports and 35,000 copies of the summary will be printed.

AMA's grant to NCCB will partially underwrite the six-week violence ranking effort during May and June of this year. NCCB ranks programs and advertisers to provide accurate information about sources and supporters of TV violence.

Fact and Fantasy

(Continued from page 391)

14. Josimovich, J. B., ed.: *Lactogenic Hormones, Fetal Nutrition and Lactation.* New York, John Wiley & Sons, 1974.

15. Bonnar, Jr. *et al.:* Effect of breast feedings on pituitary-ovarian function. *Brit. Med. J.* 3:82, 1975.

16. Berg, Alan: The nutrition factor. *Saturday Review,* May, 1973.

17. Taitz, L. S.: Obesity in pediatric practice. Symposium on Nutrition in Pediatrics. *Ped. Clin. N. Amer.* 24:107, 1977.

18. Neumann, C. G. and Alpaugh, M.: Birthweight doubling time: a fresh look. *Pediatrics* 57:469, 1976.

19. Foman, S. F. *et al: J. Nutrition* 98:241, 1969.

20. Taitz: Obesity in pediatric practice, *Ped. Clin. N. Amer.* 24:111, 1977.

21. Brook, C. G. D.: Evidence for a sensitive period in adipose replication in man. *Lancet* 11:624-627, 1972.

22. Brook, C. G. D.: Fat cells in childhood obesity. *Lancet* 1:224, 1975.

23. Charney, D. *et al.:* Childhood antecedents of adult obesity. *New Engl. J. Med.* 295:6-9, 1976.

24. Echols, B. and Arena, J. M.: Food additives and pesticides in foods. Symposium on Nutrition in Pediatrics. *Ped. Clin. N. Amer.* 24:185, 1977.

25. Ibid., p. 184.

26. Anderson, T. A.: Commercial infant foods: content and composition. Symposium on Nutrition in Pediatrics. *Ped. Clin. N. Amer.* 24:39, 1977.

27. Foman, S. F.: *Infant Nutrition,* op. cit. p. 428.

28. Anderson, T. A.: op. cit. pp. 37-47.

29. Foman, S. F.: *Infant Nutrition,* op. cit. p. 430.

30. Citizen's Committee on Infant Nutrition Feeding Practices. Center for Science in the Public Interest: *White paper on infant feeding practices.* Washington, D. C., 1974, p. 11.

31. Lamm, E. *et al.:* Economy in the feeding of infants. Symposium on Nutrition in Pediatrics, *Ped. Clin. N. Amer.* 24: 71-84, 1977.

32. U. S. Department of Agriculture, Food for the Family, *Family Economics Review,* Fall, 1976, Consumer and Food Economic Institute.

33. Taitz, L. S.: A change in infant feeding practices in South Yorkshire. *Inst. Health Educ.* 12:88-90, 1974.

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ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

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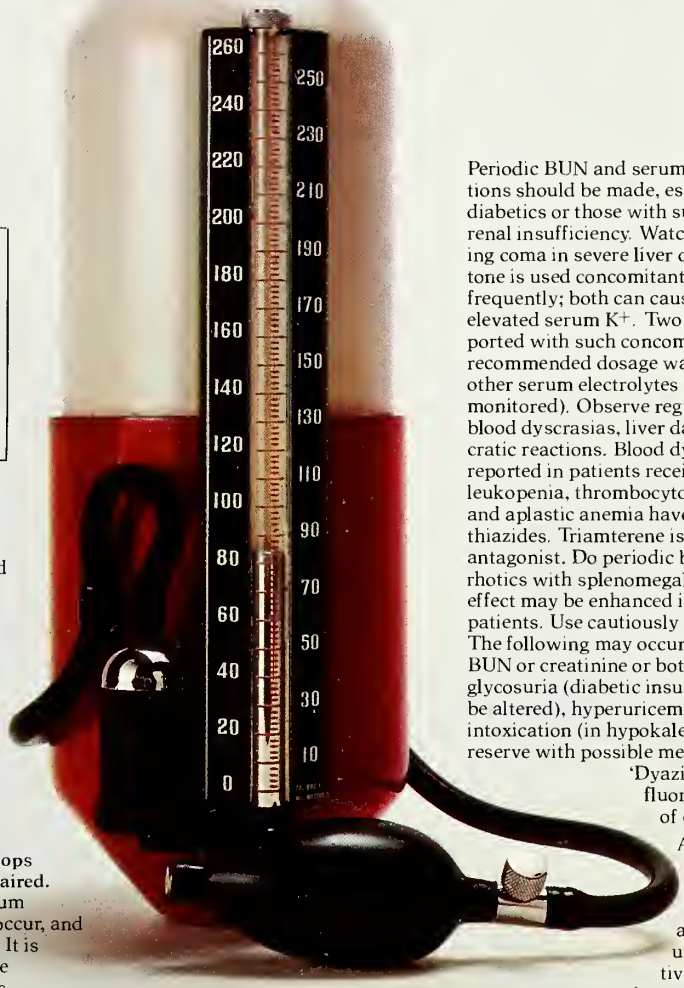

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Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spironolactone is used concomitantly, determine serum K^+ frequently; both can cause K^+ retention and elevated serum K^+. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effect may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine.

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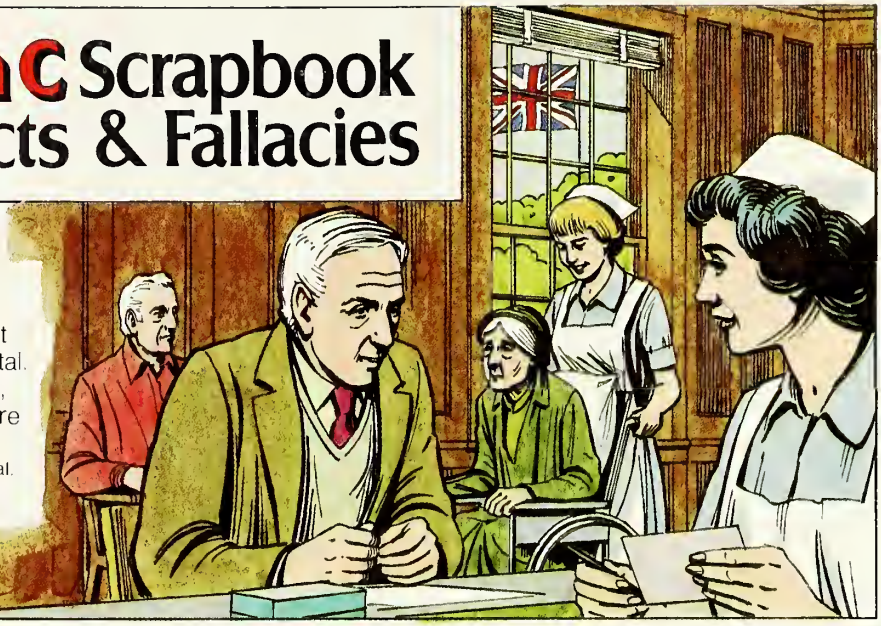

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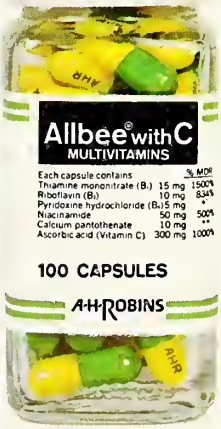

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Hyoscyamine sulfate	0.1037 mg	0.1037 mg
Atropine sulfate	0.0194 mg	0.0194 mg
Hyoscine hydrobromide	0.0065 mg	0.0065 mg

Indications: Based on a review of this drug by the NAS/NRC and/or other information, FDA has classified the following indications as possibly effective: adjunctive therapy in the treatment of peptic ulcer, the treatment of the irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis. Final classification of the less-than-effective indications requires further investigation.

Brief summary. Contraindicated in patients with glaucoma, renal or hepatic disease, obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy) or a hypersensitivity to any of the ingredients. Blurred vision, dry mouth, difficult urination, and flushing or dryness of the skin may occur at higher dosage levels, rarely at the usual dosage.

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OCTOBER
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Volume LXXVIII, Number 10—October, 1977

The JOURNAL of the KANSAS MEDICAL SOCIETY

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WARNING: Because of the potential hazard of nephrotoxicity and ototoxicity due to neomycin, care should be exercised when using this product in treating extensive burns, trophic ulceration and other extensive conditions where absorption of neomycin is possible. In burns where more than 20 percent of the body surface is affected, especially if the patient has impaired renal function or is receiving other aminoglycoside antibiotics concurrently, not more than one application a day is recommended.

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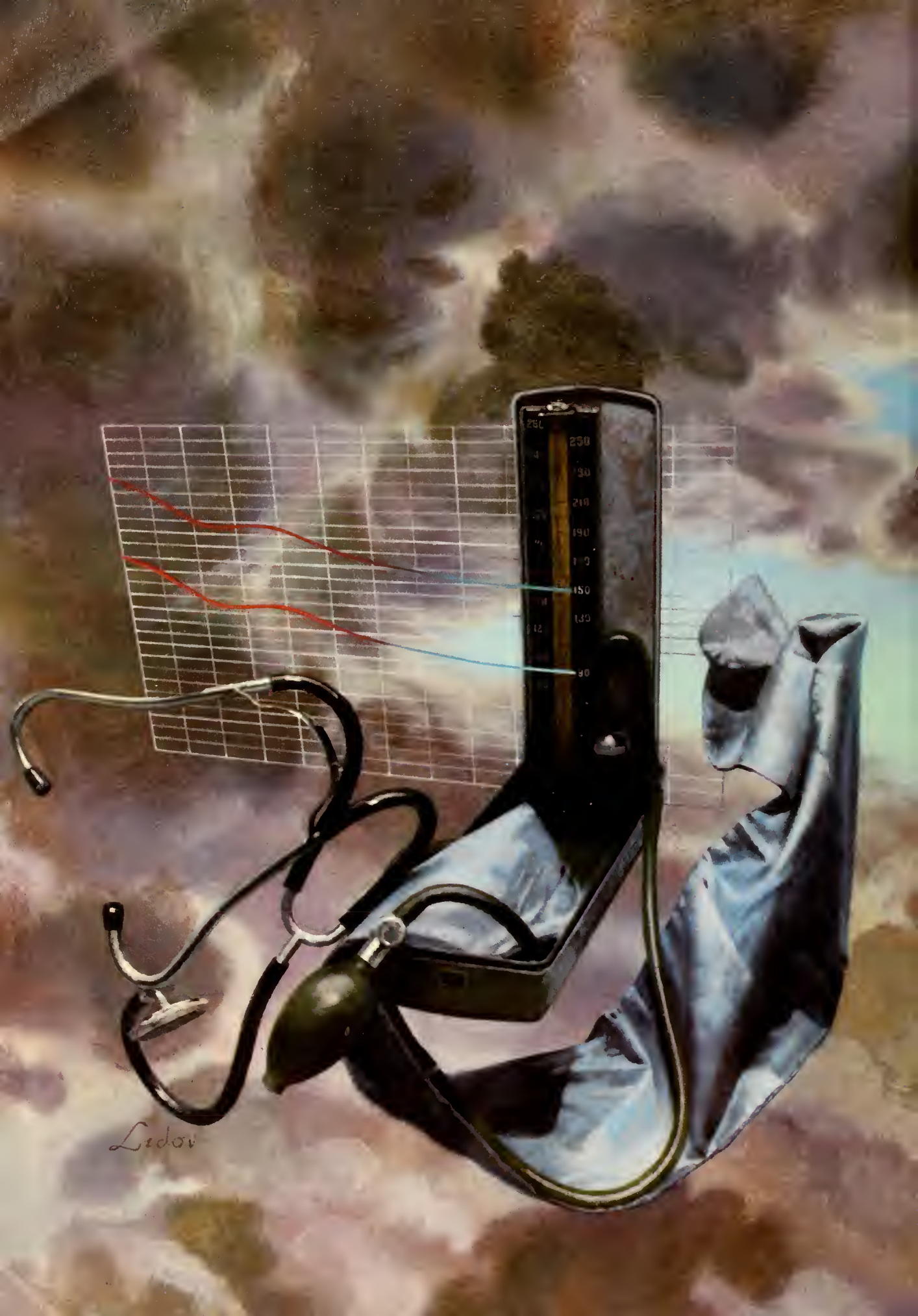
PRECAUTIONS: As with other antibacterial preparations, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

ADVERSE REACTIONS: Neomycin is a not uncommon cutaneous sensitizer. Articles in the current literature indicate an increase in the prevalence of persons allergic to neomycin. Ototoxicity and nephrotoxicity have been reported (see Warning section).

Complete literature available on request from Professional Services Dept. PML.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When choosing a diuretic for day-in-day-out hypertension control with comfortable compliance...

The agent you choose in mild to moderate essential hypertension should offer (1) long-term effectiveness, (2) patient comfort, and (3) compliance.

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(metolazone) Pennwalt

2½ mg, 5 mg and 10 mg tablets

once-daily antihypertensive diuretic

Recommended initial dosage in mild to moderate essential hypertension–2½ to 5 mg once daily

Before prescribing, see complete prescribing information in the package insert, or in PDR, or available from your Pennwalt representative. The following is a brief summary. **Indications:** Zaroxolyn (metolazone) is an antihypertensive diuretic indicated for the management of mild to moderate essential hypertension as sole therapeutic agent and in the more severe forms of hypertension in conjunction with other antihypertensive agents. Also, edema associated with heart failure and renal disease. **Contraindications:** Anuria, hepatic coma or precoma; allergy or hypersensitivity to Zaroxolyn. Or, as a routine in otherwise healthy pregnant women. **Warnings:** In theory cross-allergy may occur in patients allergic to sulfonamide-derived drugs, thiazides or quinethazone. Hypokalemia may occur, and is a particular hazard in digitalized patients; dangerous or fatal arrhythmias may occur. Azotemia and hyperuricemia may be noted or precipitated. Considerable potentiation may occur when given concurrently with furosemide. When used concurrently with other antihypertensives, the dosage of the other agents should be reduced. Use with potassium-sparing diuretics may cause potassium retention and hyperkalemia. Administration to women of childbearing age requires that potential benefits be weighed against possible hazards to the fetus. Zaroxolyn appears in the breast milk. Not for pediatric use. **Precautions:** Perform periodic examination of serum electrolytes, BUN, uric acid, and glucose. Observe patients for signs of fluid or electrolyte imbalance. These determinations are particularly important when there is excessive vomiting or diarrhea, or when parenteral fluids are administered. Patients treated with diuretics or corticosteroids are susceptible to potassium depletion. Caution should be observed when administering to patients with gout or hyperuricemia or those with severely impaired renal function. Hyperglycemia and glycosuria may occur in latent diabetes. Chloride deficit and hypochloremic alkalosis may occur. Orthostatic hypotension may occur. Dilutional hyponatremia may occur in edematous patients in hot weather. **Adverse Reactions:** Constipation, nausea, vomiting, anorexia, diarrhea, bloating, epigastric distress, intrahepatic cholestatic jaundice, hepatitis, syncope, dizziness, drowsiness, vertigo, headache, orthostatic hypotension, excessive volume depletion, hemoconcentration, venous thrombosis, palpitation, chest pain, leukopenia, urticaria, other skin rashes, dryness of mouth, hypokalemia, hyponatremia, hypochloremia, hypochloremic alkalosis, hyperuricemia, hyperglycemia, glycosuria, raised BUN or creatinine, fatigue, muscle cramps or spasm, weakness, restlessness, chills, and acute gouty attacks. **Usual Initial Once-Daily Dosages:** mild to moderate essential hypertension—2½ to 5 mg; edema of cardiac failure—5 to 10 mg; edema of renal disease—5 to 20 mg. Dosage adjustment may be necessary during the course of therapy. **How Supplied:** Tablets, 2½, 5 and 10 mg.

References:

1. Dornfeld L, Kane R: Metolazone in essential hypertension: The long-term clinical efficacy of a new diuretic. *Curr Ther Res* **13**:527-533, 1975.
2. Cangiano JL: Effects of prolonged administration of metolazone in the treatment of essential hypertension. *Curr Ther Res* **20**:745-750, 1976.
3. Data on file: Medical Department, Pennwalt Prescription Products.

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Wanted Movies of Ceremony, But Both Factions Are

WASHINGTON, Aug. 26, 1920—[illegible] Wom-

Social Security Bill Is Signed; Gives Pensions to Aged, Jobl

Roosevelt Approves Message Intended to Benefit 30,000 Persons When States Adopt Cooperating Laws—He Co the Measure 'Cornerstone' of His Economic Program

WASHINGTON, Aug. 14, The Social Security Bill, pro a broad program of unemplo insurance and old age per and counted upon to benefit 20,000,000 persons, became l day when it was signed by dent Roosevelt in the prese those chiefly responsible fo ting it through Congress.

Mr. Roosevelt called the me "the cornerstone [illegible] str which is being [illegible] me [illegible] comple [illegible]

SENATE APPROVES 18-YEAR OLD VOTE IN ALL ELECTIONS

Amendment to Constitution is Sent to House, Where Passage is Expected

WASHINGTON, March 10, 1971—The Senate approved today, 94 to 0, and sent to [illegible]

TRUMAN CLOSES TED NATIONS CONFEREN ITH PLEA TO TRANSLATE CHARTER INTO DEEDS

NEW WORLD HOPE

President Hails 'Great Instrument of Peace,' Insists It Be Used

HISTORIC LANDMARK

Meeting Gives Standing Ovation as Executive Pictures Peace Gain

"If we fail to use it," he declared to the solemn final meeting of the delegates, 'we shall betray all of those who have died in order that we might meet here in freedom and safety to create it.'

"If we seek to use it selfishly—for the advantage of any one nation or any small group of nations—we shall be equally guilty of that betrayal."

Fervent Interpolation

The President, speaking in the auditorium of the War Memorial Opera House, built in memory of sons of the Golden Gate city who gave their lives in the first World War, in which he himself served, seemed to give unconscious expression to the solemn feeling of the occasion when, at the outset of his speech, he interpolated the words, half a hope, half a prayer:

"Oh, what a great day this can be in history!"

Just before the plenary session

OL SIGN the Draf Ends No

WASHINGTON, Jan. 27, 1973—"With the signing of the peace agreement in Paris today, and after receiving a report from the Secretary of the Army that

PATIENT PACKAGE INSERTS: A CONCEPT WHOSE TIME HAS COME?

The consumer's right to know is an irreversible and desirable trend of the Seventies. It extends, and properly, to a patient's right to know more about his or her prescription medications. One way, gaining favor, is through patient package inserts. Wisely-prepared and properly distributed when medically indicated, they could markedly improve patient knowledge and drug therapy—laudable goals by anyone's standards.

The PMA endorses these goals and will work with government, the health professions and consumers to achieve them.

The Advantages

The concept holds promise of benefits: better patient understanding of the product prescribed, better adherence to the treatment plan, and more awareness of possible side reactions.

Every doctor has had patients who fail to finish antibiotic regimens because they feel better. Some patients assume that if one tranquilizer or analgesic is good, two may be twice as good. Still others fail to report dizziness while on antihypertensive therapy —and so on.

Problems like these might arise less often if the patient received written information in addition to verbal instructions. Some studies suggest that patients are more receptive to such materials, and they more often understand the verbal instructions and follow them, when inserts are used.

The Disadvantages

There are also some potential problems. Obviously, the inserts must be clearly phrased, without extraneous or complex detail. How much information is enough? How can it be kept current? Should all patients receive the same information? Should inserts be included with all drugs? Should only potential problems be listed or are patients better off with a "fair balance" presentation that describes usefulness as well as drawbacks?

These and similar questions require answers, since model inserts have yet to be properly developed and tested. Despite the need for these studies, the FDA is proceeding prematurely with inserts on selected products. We think the Congress is the only place where the matter can be given the proper legal status and direction, particularly since it represents a conceptual change in the legal, medical and social framework of the nation's prescription drug information system.

The Solution

The PMA believes that carefully-devised pilot studies of various kinds of inserts are needed. They should be developed and implemented with full participation by doctors, pharmacists, consumers, communications experts and the drug industry. Such studies will provide reliable pathways to follow, so that inserts will be useful aids to medical practice.

And particularly we think that you should be closely involved in this debate and in these studies and decisions. Otherwise, people with less experience and qualifications may control the purposes, content and use of a tool with considerable promise for improved patient care. It could make a difference in your practice tomorrow, and more importantly, in the health of your patients.

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Each tablet contains 180 mg anhydrous theophylline (90 mg in the immediate release layer and 90 mg in the sustained release layer); 48 mg ephedrine hydrochloride (16 mg in the immediate release layer and 32 mg in the sustained release layer), and 25 mg phenobarbital in the immediate release layer.

SUSTAINED ACTION

Each 5 ml teaspoonful contains 32.5 mg theophylline, 6 mg ephedrine HCl, and 2 mg phenobarbital, the alcohol content is 15%.

See next page for brief summary.

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Morris Plains, New Jersey 07950

T-GP-72-B/W

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TEDRAL® SA Sustained Action

TEDRAL® Elixir

CAUTION: Federal law prohibits dispensing Tedral SA without prescription.

Description. Tedral: each tablet contains 130 mg theophylline, 24 mg ephedrine hydrochloride, and 8 mg phenobarbital.

Tedral SA: each tablet contains 180 mg anhydrous theophylline (90 mg in the immediate release layer and 90 mg in the sustained release layer); 48 mg ephedrine hydrochloride (16 mg in the immediate release layer and 32 mg in the sustained release layer); 25 mg phenobarbital in the immediate release layer.

Tedral Elixir: each 5 ml teaspoonful contains 32.5 mg theophylline, 6 mg ephedrine hydrochloride, and 2 mg phenobarbital; the alcohol content is 15%.

Indications. Tedral, Tedral SA, and Tedral Elixir are indicated for the symptomatic relief of bronchial asthma, asthmatic bronchitis, and other bronchospastic disorders. They may also be used prophylactically to abort or minimize asthmatic attacks and are of value in managing occasional, seasonal or perennial asthma.

Tedral SA (Sustained Action) offers the convenience of b.i.d. dosage.

Tedral Elixir is convenient for persons who may have difficulty in swallowing tablets.

These Tedral formulations are adjuncts in the total management of the asthmatic patient. Acute or severe asthmatic attacks may necessitate supplemental therapy with other drugs by inhalation or other parenteral routes.

Contraindications. Sensitivity to any of the ingredients; porphyria.

Warnings. Drowsiness may occur. PHENOBARBITAL MAY BE HABIT-FORMING.

Precautions. Use with caution in the presence of cardiovascular disease, severe hypertension, hyperthyroidism, prostatic hypertrophy, or glaucoma.

Adverse Reactions. Mild epigastric distress, palpitation, tremulousness, insomnia, difficulty of micturition, and CNS stimulation have been reported.

Average Dosage. *Prophylactic or Therapeutic.*

Tedral: *Adults*—One or two tablets every 4 hours. *Children*—(Over 60 lb) one-half the adult dose.

Tedral SA: *Adults*—One tablet on arising and one tablet 12 hours later. Tablets should not be chewed. *Children*—Not established for children under 12.

Tedral Elixir: Note: One teaspoonful is equivalent to *one-quarter* Tedral tablet. *Children*—One teaspoonful per 30 lb body weight, every 4-6 hours, unless prescribed otherwise by physician. Should be given to children under 2 years of age only with extreme caution. *Adults*—One to two tablespoonfuls every four hours.

Supplied. Tedral: White, uncoated scored tablets in bottles of 24 (N 0047-0230-24), 100 (N 0047-0230-51) and 1000 (N 0047-0230-60). Also in Unit Dose—package of 10 x 10 strips (N 0047-0230-11).

Tedral SA: Double-layered, uncoated, coral/mottled white tablets in bottles of 100 (N 0047-0231-51) and 1000 (N 0047-0231-60). Also in Unit Dose—package of 10 x 10 strips (N 0047-0231-11).

Tedral Elixir: Dark red and cherry-flavored in 474 ml (16 fl oz) bottles (N 0047-0242-16).

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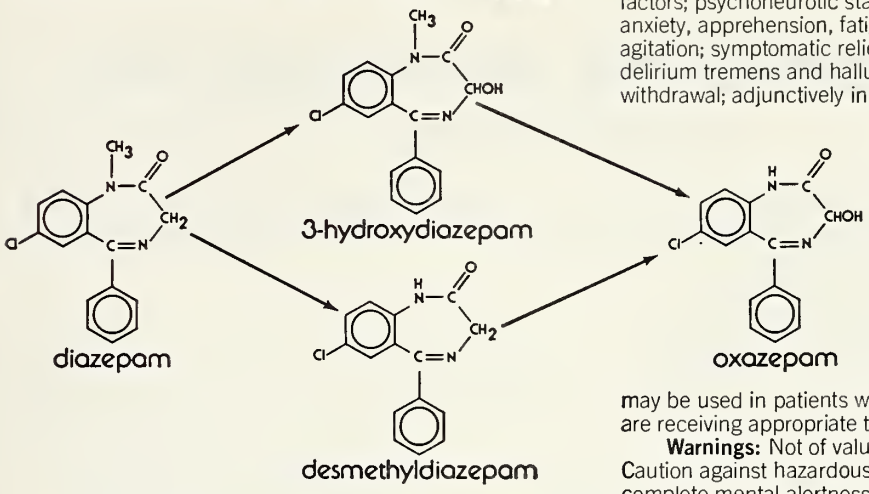

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a prudent choice in psychic tension and anxiety

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Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome; convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

***Usage in Pregnancy:* Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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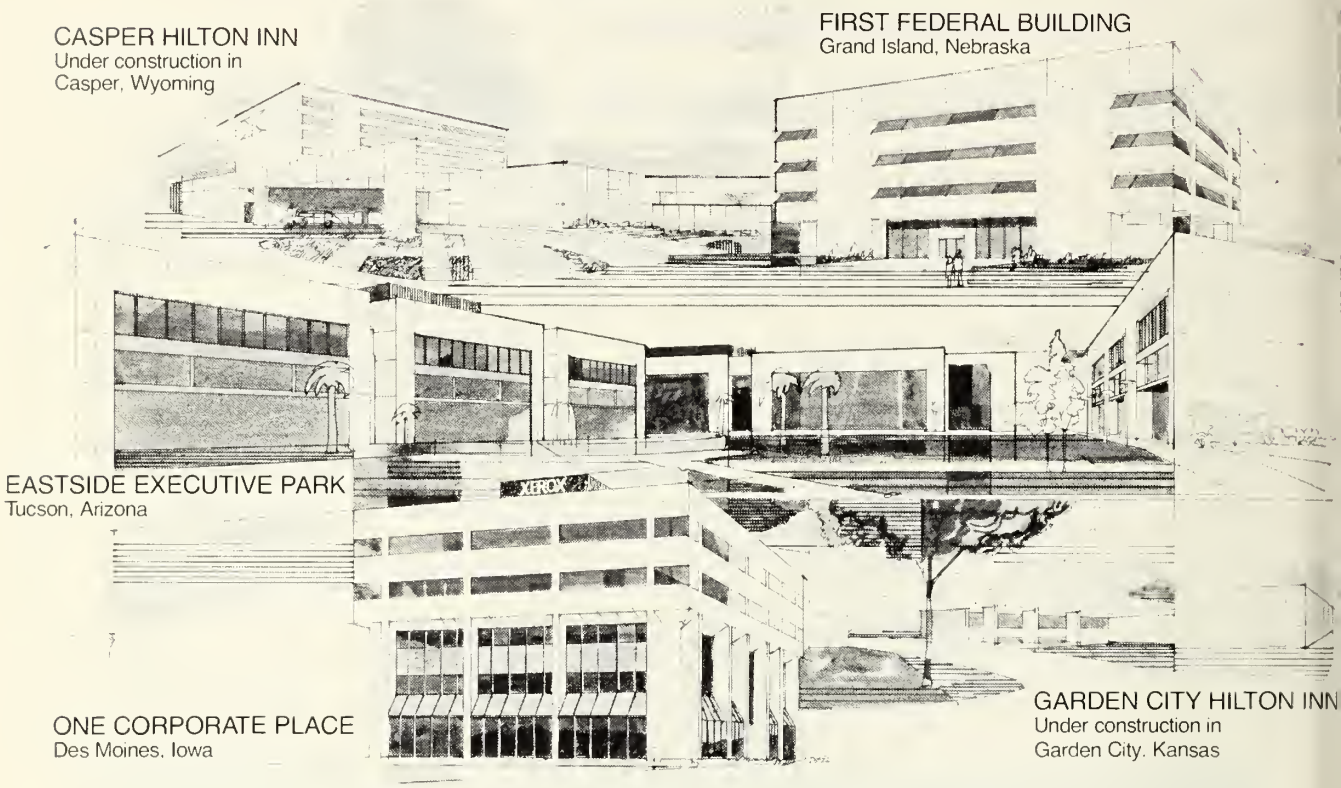

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Scientific ARTICLES

Preoperative Diagnosis

Acute Appendicitis

ANTHONY WITTMAN, M.D. *and* **F. CALVIN BIGLER, M.D.,** *Garden City*

DATA FOR THIS STUDY were obtained from the examination of hospital charts of all patients with a preoperative diagnosis of acute appendicitis at St. Catherine Hospital in Garden City, Kansas, from January 1, 1970, to June 30, 1976. Of 339 patients operated on for acute appendicitis in this period, 283 (83.5%) were confirmed by histological study of the appendix to have acute appendicitis. These 283 patients could be divided into two groups: (1) simple acute appendicitis, 70 per cent; and (2) initially complicated appendicitis, 30 per cent. The initally complicated appendicitis cases consisted of three pathological entities: those appendices with (1) either focal or diffuse gangrene, 11 per cent; (2) perforation but no abscess, 9.5 per cent; and (3) an established abscess in addition to perforation, 9.5 per cent *(Table I)*.

St. Catherine Hospital is the only hospital in Garden City and in Finney County. In 1970, Finney County had a population of 19,000;[1] 7.8 per cent of the population was over age 65 years, compared to 11.8 per cent for the state. The median age in the county was 24.1 years. During the six and a half year period of the study, there were 29,500 admissions with 10,400 operations in St. Catherine Hospital. Operations for acute appendicitis represented 3.3 per cent of all operating room procedures.

Of the 283 cases with definite appendicitis, 193 (68%) were male and 90 (32%) were female, a ratio of greater than 2:1. The average age was 26 years.

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Address reprint requests to Dr. Bigler, 603 N. Fifth, Garden City, KS 67846.

Figure 1 shows the number of cases found in each decade of life. The highest incidence was in the age group of 11 to 20 years, with 108 cases (38%); 8 per cent of the cases were in the age group of over 60 years.

A review of cases diagnosed as acute appendicitis is presented, including analyzing parameters, surgical findings, and correlating factors.

Table II records the symptom of abdominal pain in all cases with acute appendicitis. A history of nausea or vomiting was noted in 76 per cent. A shift of pain to the right lower quadrant was present 55 per cent of the time. While only eleven cases (4%) gave a history of diarrhea, six of these cases were found at operation to

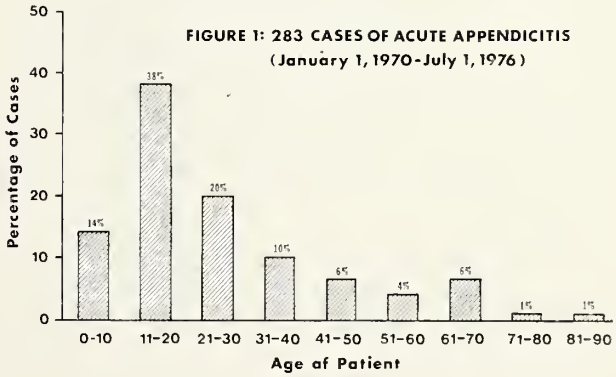

Figure 1

TABLE I

SURGICAL-PATHOLOGICAL FINDINGS

Type	*Patients*	*%*
Early acute appendicitis	197	70
Initially complicated appendicitis	86	30
Total	283	100
Breakdown of initially complicated cases		
Gangrene of appendix without abscess	32	11
Associated abscess	27	9.5
Perforation of appendix without abscess	27	9.5
Total	86	30

TABLE III

DURATION OF SYMPTOMS PRIOR TO ADMISSION

Time (hrs)	*Patients*		*%*	
0- 6	46	125	16	44%
6-12	79		28	
12-18	23		8	
18-24	55		19	
24-48	50		18	
>48	30		11	
Total	283			

have an intraperitoneal abscess.

Table III reveals that 44 per cent of patients studied were symptomatic for 12 or fewer hours before admission. The duration of symptoms was found to be 24 hours or less in 72 per cent of the patients operated on for acute appendicitis. Other reports found that only 29 per cent[2] and 58 per cent[3] of patients sought help within 24 hours of the onset of symptoms. Patients symptomatic longer than 48 hours represented 11 per cent of the cases in our series; however, the majority of these had initially complicated appendicitis. (For initial physical findings, see *Table II.)*

Only 11 per cent of patients with acute appendicitis had a white blood cell count (WBC) of 10,000/cu mm or less. In 8 per cent of the cases, the white count was greater than 20,000/cu mm. A shift to the left with greater than 80 per cent neutrophiles was found in 68 per cent of the cases *(Table IV)*.

Table V reveals that the interval between hospital admission and operation was less than six hours in 89 per cent of the cases. By 12 hours after admission, 96 per cent had been taken to the operating room. Five patients were operated on 18-24 hours after admission, and another five came to operation one to two days after admission; in each of these groups, four (80%) had initially complicated appendicitis.

Analysis of the pathological findings reveals that 283 of the 339 patients operated on for acute appendicitis had been correctly diagnosed. This reflects a diagnostic error of 16.5 per cent. Either lymphoid hyperplasia or a normal appendix was the pathological diagnosis in 41 of the 56 patients not found to have acute appendicitis *(Table VI)*. One group in which acute appendicitis was not found (and for which surgery would not ordinarily be done had the true diagnosis been known preoperatively) included salpingitis, six cases; regional ileitis, two cases; and a ruptured ovarian cyst, one case. Pathology other than acute appendicitis for which an operation was indicated was found in six patients *(Table VII)*. All individuals in this group were female, ranging in age from 11 to 55 years. Two cases were found to be endometriosis

TABLE II

PRESENTING SYMPTOMS AND PHYSICAL FINDINGS

	No. of Patients	*%*
Presenting symptoms		
Pain	283	100
Nausea and/or vomiting	214	76
Shift of pain	157	55
Diarrhea	11	4
Initial physical findings		
Tenderness	280	99
Rebound	211	75
Rectal tenderness	81	30
Mass (rectal or abdominal)	12	4

TABLE IV

WHITE BLOOD COUNT IN APPENDICITIS

	Patients	*%*
WBC		
6,000 or less	5	2
6,000-10,000	25	9
11,000-15,000	130	46
16,000-20,000	98	35
>20,000	25	8
Total	283	
Differential percentage of neutrophils		
70 or less	33	12
<80	57	20
80-90	152	54
>90	41	14
Total	283	

TABLE V

INTERVAL FROM ADMISSION TO OPERATION

Time (hrs)	*Patients*	*%*
6 or less	253	89
6-12	19	7
12-18	1	0.4
18-24	5	2
24-48	5	2

of the ovary; one case was a ruptured ovarian follicle with 800 ml of blood in the pelvic peritoneal cavity; one case was a tubo-ovarian abscess; one was an ovarian cyst with torsion; and one patient had small bowel obstruction due to adhesions. The incidence of non-surgically correctable intra-abdominal lesions for this group of 339 patients operated on after a diagnosis of acute appendicitis was 14.7 per cent.

Operative treatment of the appendix usually involved inversion of the stump after amputation of the appendix. The stump was not inverted in six cases, all with excessive cecal edema. Two of these had appendicostomies. Drains were placed either down to the appendiceal stump or in the subcutaneous tissue, or in both sites in 28 per cent of the cases. Less than 10 per cent had delayed closure of the skin and subcutaneous tissue. Postoperative antimicrobials were given in 57 per cent of the cases. Cultures were done in 55 per cent; however, cultures were done in 86 per cent of the initially complicated cases in anticipation of the increased potential for wound infection in those patients.

The one death in the series (mortality rate of 0.3%) was a 69-year-old female with simple acute appendicitis, mechanical small bowel obstruction, cholelithiasis, and acute cholecystitis at the time of the initial operation. Her postoperative course was complicated by pulmonary embolus and bilateral adrenal hemorrhage. The patient died of cardiac arrest after a hospital course of 30 days.

Table VIII lists the complications in 35 patients. The

TABLE VI

PATHOLOGY OTHER THAN ACUTE APPENDICITIS NOT DEMANDING OPERATION

Other Pathology	*Patients*
Lymphoid hyperplasia or normal appendix	41
Acute salpingitis	6
Regional ileitis	2
Ovarian cyst	1

Total of 50 cases, or 14.7% of operated cases.

TABLE VII

OPERATION NEEDED, BUT NOT FOR ACUTE APPENDICITIS

Other Pathology	*Patients*
Small bowel obstruction	1
Ruptured ovarian cyst with hemorrhage	1
Ovarian endometriosis	2
Tubo-ovarian abscess	1
Tortion of ovarian cyst with infarction	1

Total of 6 cases, or 1.8% of operations.

overall incidence of postoperative infections was 7.8 per cent. Five patients (3%) with simple appendicitis and 17 patients (20%) with initially complicated diagnoses developed infections. The incidence of postoperative infections in other recent non-selective series varies from 5.4[4] to 13.9 per cent[5]; one report noted a frequency of 44 per cent for wound infections in 53 patients with perforated appendix.[6] Only 13 per cent of the patients in our study were over age 50 years; yet this group accounted for 36 per cent of all postoperative infections. The findings of this study bear out the overall impression that the frequency of wound infection increases when there is complicated appendicitis found at operation. Advanced age of the patient and advanced stage of the disease are factors that correlate with increased incidence of gangrene and perforation of the appendix.

There has been a decline in the mortality rate of pa-

TABLE VIII

COMPLICATIONS IN 35 PATIENTS

Type	*Simple*	*Initially Complicated*
A. Wound related		
Wound infection	5	14
Pelvic abscess		3
Incisional hernia		2
Hematoma of wound		2
Colonic fistula		2
Intestional obstruction		1
Prolonged ileus (5-10 days)		2
Iliofemoral venous thrombosis		1
B. Nonwound-related		
Urinary tract infection		2
Post-op atelectasis	2	2
Pulmonary embolism (All in one patient)	1*	1
Adrenal hemorrhage (All in one patient)	1*	
Cardiac arrest (All in one patient)	1*	
Seizures		1

* Indicates death.

tients undergoing surgery for appendicitis. An example of this is the 33-year study (1930 to 1962) at the Mary Imogene Bassett Hospital, in which four consecutive series showed reduction in death rate from 4.4 to 0.4 per cent.[7] Several reports have emphasized the increased mortality rate in the older patients. Ross *et al.* reported a mortality rate of 0.36 per cent in patients under age 50 years, versus 5.6 per cent in those over age 50 years.[8] The fact that there is still a substantial risk of death with perforation has also been emphasized by Ackerman.[6]

Regarding payment of health care costs, 87 per cent of the patients in this Garden City series had some form of third-party payment to defray the cost of hospitalization, with five patients (2%) relying on public aid.

The average length of hospitalization for those with simple appendicitis was 4.8 days, while those with initially complicated appendicitis stayed an average of 11 days. The length of stay for all patients with acute appendicitis averaged 6.7 days. The hospital stay in Mittelpunkt's report from Chicago was an average of 6.4 days in simple appendicitis and 14.5 days for initially complicated cases.[4] A series from New York City (1928 to 1933) reported the average stay for simple appendicitis to be 12 days compared to that of advanced disease as 21 days.[9] It is remarkable how much the hospital stay has decreased since the time of McBurney's report in 1889, when patients with appendicitis were hospitalized from 24 to 45 days.[10]

Summary

Over the six and a half year period (January 1, 1970 to June 30, 1976) 339 patients at St. Catherine Hospital in Garden City were diagnosed preoperatively to have acute appendicitis. This was confirmed at operation and by pathological study in 83.5 per cent of cases. In addition, 1.5 per cent suffered other intra-abdominal pathology, which was corrected by the operative procedure. Acute appendicitis predominated in males 2:1 over females, with 70 per cent of cases of simple appendicitis; 30 per cent had appendicitis initially complicated by gangrene or perforation with or without abscess formation. There was one death in the group, for a mortality rate of 0.3 per cent. Wound-related postoperative infections were present in 3 per cent of cases with simple appendicitis and 20 per cent with initial complications. Length of hospitalization averaged 4.8 days for simple appendicitis and 11 days for initially complicated appendicitis. Emphasis is placed on the importance of prompt diagnosis and proper surgical treatment of the inflamed appendix, to prevent the increased morbidity associated with gangrene and perforation of the appendix.

References

1. *General Population Characteristics, Kansas, 1970 Census,* U. S. Dept. of Commerce publication, 1971.

2. Magee, R. B.; Stowell, J. M. and MacDuffee, R. C.: Appendicitis: Analysis of 2117 cases treated surgically in a community hospital during a period of 20 years. *Postgrad. Med.* 70:47-49, 1967.

3. Darling, A. P. and McIver, M. A.: Acute appendicitis in a rural community. *Ann. Surg.* 131:307-315, 1950.

4. Mittelpunkt, A. and Nora, P. F.: Current features in the treatment of acute appendicitis: An analysis of 1,000 consecutive cases. *Surgery* 60:971-975, 1966.

5. Kazarian, K. K.; Roeder, W. J. and Mersheimer, W. L.: Decreasing mortality and increasing morbidity from acute appendicitis. *Am. J. Surg.* 119:681-685, 1970.

6. Ackerman, N.: Continuing problems of perforated appendicitis. *Surg. Gynecol. Obstet.* 139:29-32, 1974.

7. Clements, N.; Olson, J. E. and Powers, J. H.: Acute appendicitis in a rural community: series four. *Ann. Surg.* 161:231-237, 1965.

8. Ross, F. P.; Zarem, H. A. and Morgan, A. P.: Appendicitis in a community hospital. *Arch. Surg.* 85:1036-1041, 1962.

9. Bancroft, F. W. and Skoluda, E. R.: Appendicitis: A study of 596 consecutive cases. *N. Y. State J. Med.* 36:507-509, 1936.

10. McBurney, C.: Experience with early operative interference in cases of disease of the vermiform appendix. *N. Y. Med. J.* 50:676-684, 1889.

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Carcinoma of the Lung

Surgical Resection

ROBERT M. BROOKER, M.D.,* *Topeka*

TWENTY YEARS of experience in the surgical treatment of carcinoma of the lung have recently been reviewed by the author from records of 513 patients personally treated from July 1953 to September 1973, and serve as the basis for the expression of three-year survival following diagnosis and treatment. The patients reviewed were seen at the three private hospitals in Topeka. Follow-up of the patients who underwent thoracotomy was 100 per cent successful, and as a result of this retrospective analysis, we found that our statistics compare favorably with those of other institutions. Forty-six per cent of the patients presented for diagnosis and surgical appraisal during the 20-year period were operated on. Resections were done in 68 per cent of these cases, with an overall early postoperative mortality rate of 7 per cent and a three-year survival rate of 43 per cent without evidence of recurrence. Sixty-eight persons survived past three years without recurrence, and some have survived up to 20 years.

It is interesting to note that in the early period, from 1953 through 1960, there was a tendency to explore fewer patients than at present, and of those, to resect only 52 per cent. Such selection resulted in cures in 50 per cent of the patients resected. As time went by, it was recognized that there was little to offer victims of lung carcinoma in the way of cure or palliation unless their tumors were resected; therefore, a more aggressive approach has resulted in the exploration of 50 per cent of the patients seen in recent years. Of those explored, resections occurred in 75 per cent of cases, with a 36-per cent three-year survival rate. During this period, while sometimes operating on older patients and those with more borderline pulmonary function, surgical mortality for resections has been reduced from an average of 10 per cent in the early days to 5 per cent in the last seven years.

Some surgeons have abandoned scalene node excision and have advocated routine mediastinoscopy on all patients prior to thoracotomy.[1] Our preferred procedure has been to reserve mediastinoscopy for selected cases, those which are almost certain to be inoperable and patients who probably would not tolerate a pulmonary resection but must have a tissue diagnosis before radiotherapy treatment can be administered. Review of the records of 74 exploratory thoracotomies where the tumor was found to be inoperable shows that, by staff criteria of inoperability, mediastinoscopy could have resulted in the rejection of 11 persons for surgery. If routine mediastinoscopy had been employed prior to thoracotomy, 150 patients resected would have been subjected to the additional unnecessary procedure carrying risk and requiring a general anesthetic, with delay in definitive treatment; and four patients, with cures exceeding three years after resection for oat cell carcinoma with mediastinal node involvement, might have been rejected for surgery and considered inoperable by some surgeons' criteria. If a patient is a candidate for a surgical resection from the standpoint of his general medical condition, and if the estimate of the extent of disease based on studies including bronchoscopy, scalene node excision and clinical intuition indicate the procedure, every effort must be made to resect the cancer at that time. The extent of disease can be better evaluated by inspection of the entire hemithorax while using bimanual palpation and frozen section examinations when indicated. The zero surgical mortality for exploratory thoracotomy in our experience in the three hospitals during the past ten years refutes the argument that exploratory thoracotomy is a procedure that carries high risk. The surgical mortality rate of 5 per cent for resection in patients with advanced disease, where pulmonary resection can be accomplished without dissecting across tissue grossly involved with tumor, and the palliative effect of the procedure coupled with a significant cure rate in patients whose life expectancy without treatment may be mea-

Evaluation of results of surgical treatment for carcinoma of the lung is presented. A three-year survival following diagnosis and treatment is projected.

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sured in months, warrants the decision to operate.

A review indicates that the following basic facts are of importance in evaluating patients with lung carcinoma: (1) Most patients with lung carcinoma also have chronic pulmonary disease, such as emphysema, bronchitis, fibrosis or combinations which may be associated with smoking; (2) Surgical removal of lung cancer at a relatively early stage is the only known method of cure; (3) Chronic lung disease with attendant reduction in pulmonary function, right ventricular strain, plus advanced age and other physical infirmities often preclude the ideal surgical treatment, creating a situation in which treatment and management are often a compromise either in selection for operation or in determination of how much lung tissue can be removed; (4) The patient with an inoperable tumor or recurrent disease after treatment behaves as an individual with a systemic disease, and life expectancy in terms of months is prolonged little by any form of treatment. Recent reports of dramatic improvement in survival of patients treated with chemotherapy are not confirmed by an analysis of the histories here reviewed. Nitrogen mustard, Cytoxan, and other drugs have been utilized in our practice since they first became available on the market. In our experience, they have rarely resulted in significant benefit; (5) It has long been known that lung carcinoma is frequently multicentric in origin. Therefore, at the time of the original diagnosis of the tumor, a small occult tumor may be present; or a new tumor may develop at a later date. Of the patients reviewed, 8 per cent developed a new second primary lung carcinoma, 7 per cent had other kinds of primary carcinomas in addition to the lung carcinoma at sometime during their lifetime, and 11 per cent had cerebral metastases suggesting that a CT scan of the brain is probably indicated prior to thoracotomy.

Conclusion

1. The only known curative treatment for carcinoma of the lung is early detection and complete surgical resection.

2. Surgical resection has palliative effects in patients with advanced disease where the tumor can be removed grossly.

3. Oat cell carcinoma should not be considered a contraindication for surgical resection.

4. Every patient over age 35 years who is a heavy smoker or has some form of chronic pulmonary disease should be considered a prime suspect for the development of lung carcinoma and could profit by periodic routine examinations, including chest x-rays.

5. Patients who have had one primary lung carcinoma diagnosed and treated by resection should be observed for the development of a second primary tumor, in addition to the recurrence of the original tumor, for the remainder of their lives.

References

1. Pearson, F. G.: An evaluation mediastinoscopy in the management of presumably operable bronchial carcinoma. *J. Thorac. Cardiovasc. Surg.* 55:617, 1968.

NATIONAL BOARD OF MEDICAL EXAMINERS TO TEST AAMAs

The American Association of Medical Assistants (AAMA) has named the National Board of Medical Examiners (NBME), 3920 Chestnut Street, Philadelphia, PA 19104, as educational test consultant. Effective immediately, the National Board of Medical Examiners will begin to work with AAMA in the preparation of the 1978 certification examinations to be offered in the spring and fall at more than 100 test centers nationwide.

The American Association of Medical Assistants is a national, nonprofit organization of 18,500 members located in 525 local chapters and 46 state societies, plus the District of Columbia. It is dedicated to the professional advancement of medical assistants who handle both administrative and clinical duties in physicians' offices and other medical facilities.

As the first professional organization for medical assistants (founded 1956 in Kansas), AAMA pioneered in developing the only certification program in this field. More than 7,500 certificates have been earned since the first examination was given in 1963.

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The National Board of Medical Examiners is a nonprofit voluntary testing organization which prepares and administers medical and specialty board examinations. In 1976 the NBME expanded its services to include allied health groups. AAMA is the third allied health association to work with the NBME, the others being Physician's Assistants and pediatric nurse practitioners.

Upper Gastrointestinal Bleeding

Hepatocellular Carcinoma

DAVID LUKENS, M.D., ***Hutchinson***

HEPATOCELLULAR carcinoma has been associated with a variety of carcinogens *(Table I)*. The induction of hepatoma in animals following ingestion of azo dyes has been known since 1934,[1] and since then a number of chemical substances have been demonstrated to induce such malignancies after chronic ingestion. These agents are relatively toxic; they can alter the normal metabolic capabilities of hepatocytes and induce excessive hepatocyte division. A subpopulation of cells appears with metabolic or histologic atypia within hepatic nodules composed of foci of altered cells. The evolution of malignant change appears to be a multiphasic sequence and further alterations may occure during the life history of the nodule cells, even following cessation of exposure to carcinogens.[2]

The considerable variation in the incidence of this disease in different parts of the world is thought to be related to the degree of exposure to environmental carcinogens. In African sub-Saharan countries and in areas of Asia, the incidence of hepatoma exceeds that in the United States and Western Europe by more than 100-fold, especially if younger age groups are compared.[3] Aflatoxin, a composite of crystalline fungal toxins (Aspergillus flavus), has been demonstrated to induce hepatoma at lower doses than all other hepatocarcinogens in a variety of animal species.[4, 5] Circumstantial evidence implicates aflatoxin as a contaminant of human food in the highest risk areas, and the level of contamination is proportional to the incidence of tumor. Aflatoxin occurs where nut meal is stored under warm and humid conditions, and estimates of levels ingested from average contamination of staple foods are well within the estimated carcinogenic range.

The high incidence of hepatoma in patients with hemochromatosis (7.7-22.3%), macronodular cirrhosis (13.1-24.2%), alcoholic cirrhosis (2.4-30%) and cirrhosis associated with Alpha I antitrypsin deficiency (40%), is most interesting; however, the pathogenetic mechanisms are unclear.[6] The relative absence of hepatoma in the cirrhosis associated with Wilson's disease suggests that factors other than cirrhosis are responsible for the occurrence of hepatoma in the cirrhotic patient.[6] The presence of hepatitis B surface antigen in the sera of many patients with hepatoma suggests that hepatitis B virus may be related to the occurrence of this tumor. The etiological relationship of other specific infections, such as schistosomiasis and clonorchiasis, in association with hepatocellular and cholangiocarcinoma remains unproven.

Review of literature and a case report of primary hepatocellular carcinoma, exploring the possible indications of a relationship to endemic foci and carcinogenic agents, are presented.

Primary hepatomas are principally hepatocellular and outnumber cholangiocarcinomas by a ratio of 9:1 to 14:1.[6] Mixed hepatocellular cholangiocarcinomas are rare. Histologically, the goal in analyzing liver tissue is to differentiate hepatoma from other malignancy, usually metastatic, and distinguish the tumor from abnormal but

TABLE I

ETIOLOGIC FACTORS IN HEPATOCELLULAR CARCINOMA[6]

1. Chemical
   - Azo compounds-amino-azotoluene P-dimethyl-amino-azobenzene (butter yellow)
   - Nitrosamines
   - Aflatoxins
   - Methylcholanthrene
   - Acetylaminofluorene
   - Senecio alkaloids
   - Cycasin
2. Thorotrast
3. Androgens
4. Malnutrition
5. Alcohol
6. Cirrhosis
7. Hepatitis B virus
8. Parasites—schistosomiasis, clonorchiasis

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non-malignant liver, usually cirrhotic.

A subclassification of primary carcinoma of the liver into trabecular, acinar, clear cell, and mixed types does not appear to be useful in prognosticating the behavior of the tumor or its clinical course.[6] The incidence of cirrhosis in patients with hepatocellular carcinoma varies from 16-80 per cent. Macronodular cirrhosis is the predominant type associated with this tumor. The primary hepatomas of infancy and childhood have different histologic and clinical characteristics from those seen in adults.

To identify hepatoma histologically, the following characteristics can be sought in order of descending differential importance: (1) resemblance to hepatocytes and their trabecular structure; (2) bile production by the malignant cells, for often hepatomas and their metastases produce bile even when the tumor is anaplastic; (3) the presence of glycogen within tumor cells; and (4) the presence of papillary-like fronds with endothelial sheaths.[2]

Hepatocellular carcinoma is seen in young and in early middle-age adults in Africa; in Asia, it primarily involves middle-aged patients; however, in the United States and Western Europe, it strikes those of late middle age and beyond. The male:female ratio varies from 2:1 to 9:1.[6]

Cases of primary carcinoma of the liver are widely distributed throughout the world with a variable incidence in different regions. In Africa and parts of Asia, it is seen in 0.76-3.1 per cent of autopsies and is responsible for 13-53 per cent of all malignancies. In the United States and Western Europe, however, it accounts for 0.14-0.72 per cent of autopsies and 1.2-2.5 per cent of all malignancies. A survey of autopsy records at the Boston City Hospital reveals that the incidence of primary carcinoma of the liver for the period 1917-1946 was 0.34 per cent of autopsies, and 0.69 per cent during 1955-1968, representing a two-fold increase which does not appear to parallel a change in incidence of cirrhosis at that same institution.[6]

Primary hepatoma calls attention to itself according to the symptom complexes summarized in *Table II*. The more common physical findings are listed in *Table III;* hepatomegaly with or without tenderness is the most common physical sign. The numerous systemic manifestations of hepatocellular carcinoma are enumerated in *Table IV*.

Laboratory Findings

The laboratory findings are as shown in *Table V*. Although hyperbilirubinemia occurs in 60-70 per cent, bilirubin levels above 10 mg/100 ml are found in only 5-10 per cent of patients.[6] Elevated alkaline phosphatase levels are generally in the moderate range. Abnormalities found on chest x-ray, including an elevation of the right leaf of the diaphragm or the presence of a deformity of the right leaflet, have been found in 50 per cent of patients with hepatoma when both PA and lateral views are available. The incidence of hypoglycemia (5-25%) and hypercholesterolemia (20-30%) is somewhat higher than might be expected.[6]

TABLE II

CLINICAL SYNDROMES ASSOCIATED WITH HEPATOCELLULAR CARCINOMA[6]

Syndromes	%
Signs and symptoms of neoplasia	25-50
Cirrhosis with unexplained deterioration	15-50
Abdominal catastrophe (hemoperitoneum)	5-15
Febrile illness	3-10
Incidental finding	10-15
Others (Budd chiari, gallbladder disease, porphyrias, polycythemia, hypoglycemia, hypercalcemia, etc.)	1-5

Diagnosis

Abnormal amounts of serum alpha-feto protein (SAFP) have been demonstrated in the serum of 40-90 per cent of patients with hepatocellular carcinoma, but even with the most sensitive radio-immunoassay techniques, approximately 10 per cent of the patients have levels within the normal range. Elevated SAFP levels have been reported in other carcinomas (testicular, gastric, pancreatic, pulmonary), acute viral hepatitis, Indian childhood cirrhosis, and other liver disorders.[6] Increased levels are observed in non-malignant, non-hepatic states such as pregnancy, with or without fetal distress. Although the SAFP test is non-specific, elevated levels of this substance in the serum of an adult male

TABLE III

PHYSICAL SIGNS IN HEPATOCELLULAR CARCINOMA[6]

Signs	% *Positive*
Hepatomegaly	90-100
Tender liver	15-60
Jaundice	10-40
Ascites	35-60
Splenomegaly	20-45
Fever	10-50
Edema	10-30
Hepatic bruits	6-25

TABLE IV

SYSTEMIC MANIFESTATIONS ASSOCIATED WITH HEPATOCELLULAR CARCINOMA[6]

Systemic Manifestations	*Estimated Incidence (%)*	*Probable Mechanisms*
Erythrocytosis	2-10	Increased erythropoietin synthesis
Hypercalcemia	7	PTH-like material produced by tumor
Hypoglycemia	5-27	Type-A-increased glucose utilization by large tumor; type B-deficient glucose-6-phosphatase and phosphorylase activity (acquired glycogenosis)
Hypercholesterolemia	30	Absent negative feedback control
Hyperlipemia	Rare	Production of abnormal pre-beta-lipoprotein
Porphyria cutanea tarda	Rare	?
Dysfibrinogenemia	Rare	Abnormal protein synthesis
Cryofibrinogenemia	Rare	Abnormal protein synthesis
Dysglobulinemias	?	Increased plasma cell activity
Variant alkaline phosphatase	16	Production by tumor cells
Osteoporosis	Rare	Ectopic PTH production by tumor
Carcinoid syndrome	Rare	5-Hydroxyindole synthesis by tumor
Precocious puberty	Rare	Increased gonadotropin synthesis by tumor
Hemihypertrophy	Rare	?
Cystathioninuria	Rare	?
Alpha fetoprotein	40-90	Synthesis by tumor cell
HB_sAg	5-80	Impaired cellular immunity

patient strongly suggest the presence of hepatocellular carcinoma or a malignancy in the gastrointestinal tract, lung or testis, or if only transiently present, acute viral hepatitis.

TABLE V

LABORATORY FINDINGS IN HEPATOCELLULAR CARCINOMA[6]

Test	%
Anemia	60-75
Polycythemia	2-10
Leukocytosis	15-30
Leukopenia	10
BSP retention	90
Hyperbilirubinemia	60-70
Bilirubin above 2 mg per 100 ml	25-50
Bilirubin above 5 mg per 100 ml	10-25
Bilirubin above 10 mg per 100 ml	5-10
Elevated Alkaline Phosphatase	85-90
4-15 Bodansky units	40-50
Above 15 Bodansky units	15-30
Elevated serum SGOT	80
Elevated serum LDH	70-85
Hypoglycemia	5-25
Hypercholesterolemia	20-30
Serum alpha fetoprotein	40-90
Variant alkaline phosphatase	16
HB_sAg	5-80
Chest x-ray, abnormal	25-50
Hepatic scan, abnormal	90
Hepatic angiography, abnormal	90

Hepatic Scan: Cirrhotic scarring and hepatocellular carcinoma both appear as areas of decreased uptake on technetium sulfur colloid liver scan. Malignant hepatic cells have selective uptake of a new isotope, Gallium-67,[6] and with the use of a Gallium-67 scan, a hepatoma will appear as an area of increased uptake, while cirrhotic scarring will remain as a relatively cold area.

Arteriography: The characteristic appearance of a hepatoma on selective hepatic arteriography is a confluent hypervascular mass with or without distortion of the vessels. However, a similar pattern may be seen in liver cell adenoma, cavernous hemangioma, or metastatic choriocarcinoma.[6]

Liver Biopsy: Aspiration liver biopsy, or wedge liver biopsy at laparotomy, remains the definitive method of establishing the diagnosis of hepatocellular carcinoma.

Clinical Course

The usual clinical course is that of rapidly progressive deterioration ending in death. The average survival after onset is 6-12 mo, and 3-6 mo after diagnosis,[2] although some patients may have a more prolonged course with survival up to two years.[6]

Weight loss, infection, gastrointestinal bleeding, and hepatic coma are the most common terminal events in these patients.[6] An intra-abdominal catastrophe, consisting of massive hemoperitoneum secondary to rupture

of hepatoma, is responsible for death in 5-15 per cent of patients. Extrahepatic portal vein thrombosis has been reported in up to 32 per cent of cases, and may result in severe portal hypertension with rupture of esophageal varices and massive gastrointestinal bleeding. The common sites of distant metastases are shown in *Table VI*. The lung is the most common metastatic lesion, accounting for 40-60 per cent of cases. Ascitic fluid cytology is rarely positive, correlating with the relatively low incidence of peritoneal metastases (2-3%).

Therapy

Ligation of Tumor Blood Supply

Inasmuch as hepatomas have a unique vascular supply, the most logical form of therapy may be selective ligation of the appropriate hepatic artery branch,[7] the exact source of which can be demonstrated radiologically. In most cases where this was tried, the liver, especially if non-cirrhotic, survived this focal deprivation as the tumor underwent severe central necrosis. Failures of this approach resulted mainly from the ease with which the tumor subsequently developed collateral blood supply.

Chemotherapy

Effective palliation has been reported with selective intra-arterial infusion of 5 FU or methotrexate.[8, 9] The results of this approach are variable, although it may represent the procedure of choice in multifocal tumors where perfusion via the main hepatic artery would affect all nodules.

Hepatic Resection

Although hepatic resection in a large series of unselected patients has yielded generally poor results,[6] the most successful approach at present may be the removal of the major tumor mass by partial hepatectomy in noncirrhotic livers. The availability of Gallium-67 scanning technique may allow identification of patients with hepatoma confined to one lobe amenable to resection. This is of major importance in children in whom coexistent cirrhosis is absent in the noncancerous liver. In many instances, this procedure has resulted in considerable increase in the life expectancy, with some survivals exceeding five years.[10-12] Residual hepatocytes show an impressive capacity to proliferate following surgical amputation of a major portion of the liver,[13, 14] and the functional mass is restored with relatively few postoperative complications within seven-ten days.

Case Report

A 54-year-old white male pharmacist presented at the Hutchinson Hospital on December 5, 1976, with an acute upper gastrointestinal hemorrhage. The patient passed some tarry black stools intermittently during the four-five days prior to admission, and experienced some epigastric discomfort which was relieved by food and antacids. The patient felt quite weak on the morning of the day of admission to the hospital, and that evening he suddenly became nauseated and vomited a large amount of gross red blood. The hematemesis was accompanied by rather profound weakness and sweating.

TABLE VI

SITES OF METASTASIS IN HEPATOCELLULAR CARCINOMA[6]

Organ	*Incidence %*
Lung	40-60
Regional lymph nodes	20-30
Adrenals	5-10
Bone	5-15
Kidneys	2-4
Heart	4-10
Stomach	3-8
Pancreas	0-3
Peritoneum	2-3

An x-ray in 1960, because of upper gastrointestinal (GI) symptoms, produced normal findings on gallbladder and upper GI series. There was no previous history of hepatitis, excessive alcohol ingestion, or prolonged exposure to hepatic toxins.

Physical examination showed the following: temperature, 37.3C (99.2F); pulse rate, 96 beats/min; respirations, 24/min; blood pressure, 124/68 mm Hg. The patient was normally developed and adequately nourished. There was some pallor of the skin and mucous membranes, but the skin was warm and dry, and the patient responded normally. An examination of the head, eyes, ears, nose, throat, and extremities revealed no abnormalities. There was no generalized glandular enlargement. The lung fields were entirely clear, and the cardiovascular system was normal. The abdomen was soft and there was no palpable hepatosplenomegaly. There was tarry black stool present. The results of a neurological examination were unremarkable.

Laboratory and x-ray findings were as follows: white blood cell count (WBC), 5,700/cu mm, with monocytes, 1%, lymphocytes, 14%, segmented neutrophils, 62%, bands, 23%, hemoglobin, 10.8 gm/100 ml; hematocrit, 31.3%; sedimentation rate, 31 mm/hour. Urinalysis showed 1+ sugar (receiving IV glucose); WBC, 6-8/HPF; RBC, 20-25/HPF; plasmacrit was nonreactive; electrolytes, normal. Other results were: calcium, 8.2 mg/100 ml; inorganic phosphate, 1.7 units/100 ml; glucose, 130 mg/100 ml; BUN, 24; bilirubin,

2 mg/100 ml; serum alkaline phosphatase, 100; LDH, 285; SGOT, 195. Serum protein electrophoresis showed decreased albumin and normal serum globulins. Hemorrhagic study revealed mild thrombocytopenia; HB_S AG was positive; serum alpha-feto protein tested positive; a liver scan revealed a large cold nodule in the dome of the right lobe of the liver with moderate to marked splenomegaly. The results of the chest x-ray and EKG were normal. A barium enema divulged no organic lesion of the colon. Upper GI series indicated large esophageal varices of at least the distal one-half of the esophagus with some involvement of the gastric fundus. A visceral arteriogram *(Figure 1)* disclosed splenomegaly, portal hypertension, and esophageal varices with demonstration of large vascular tumor mass involving the upper two-thirds of the liver. Considerable shunting was demonstrated within the tumor on the early films of the arteriogram.

Figure 1. Hepatic arteriogram showing confluent hypervascular mass in the dome of the right lobe of the liver.

Hospital Course

The patient was treated with intravenous fluids, nasogastric intubation with Gomco suction, and replacement of blood. He was unable to tolerate gastric lavage with ice water, and attempts at same were accordingly discontinued. Because the patient continued to hemorrhage after 24 hours of hospital treatment, upper GI endoscopy was performed with the finding of large, actively bleeding esophageal varices. Nasogastric intubation was discontinued and, following a total of six units of blood replacement, the patient's condition stabilized. There was no evidence of further active bleeding after the third hospital day. The patient was allowed feedings by mouth on the fifth hospital day, and progressive ambulation followed. Following completion of diagnostic studies, the patient was transferred to St. Mary's Hospital, Rochester, Minnesota, for surgical exploration. A multicentric hepatoma in a severely cirrhotic liver was discovered at operation on December 27, 1976. The pathology diagnosis on biopsy material submitted at operation was: hepatocellular carcinoma, Grade III, with diffuse cirrhosis of the liver *(Figure 2)*. A distal splenorenal shunt was accomplished and the patient's postoperative course was entirely uneventful. The patient was discharged to outpatient care, and anti-tumor chemotherapy was started on January 26, 1977.

Summary

A case of primary hepatocellular carcinoma was presented and the subject of the disease was briefly reviewed. A continued examination of the geographic distribution of this tumor may yield new endemic foci and evidence of other carcinogenic agents newly introduced or indigenous, synthetic or natural. There may be other factors which might act synergistically with aflatoxin or with other carcinogens, *i.e.,* protein or vitamin deficiency, parasitic infection, or excessive iron intake.

Local epidemiologic observations may reveal differences between alcoholics and non-alcoholics, or the frequent presentation of hepatomas in patients immigrating to the United States from other countries, such as the Chinese population at Bellevue Hospital, New York.[2]

The pre-malignant lesion in the alcoholic patient remains unclear, inasmuch as relatively little cellular atypia is noted in examination of the most cirrhotic livers prior to the appearance of carcinoma. Experimental studies suggest that premalignant cells may not be readily differentiated from normal hepatocytes, and "atypical" cells within cirrhotic nodules are not found to participate in cell division.[2] Accordingly, the reason why hepatocytes undergo malignant change remains poorly understood.

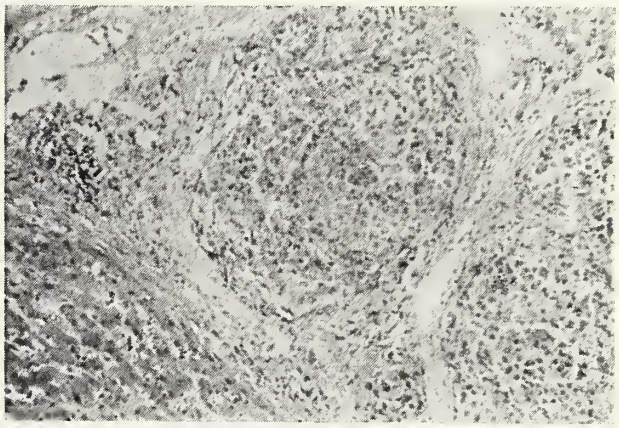

Figure 2. Multilobular liver cell carcinoma showing marked stromal fibrosis and normal liver cell cords at lower left.

It is possible that the use of selective chemotherapeutic agents in combination with surgical removal of hepatoma may be the treatment of choice in the future. The basal hepatocyte remains relatively resistant to the effects of most cytotoxic agents; however, the dividing hepatocyte, after partial hepatectomy, is vulnerable to the cytotoxic effects of many antitumor agents. Accordingly, following amputation of hepatoma, there should be some delay in administering chemotherapeutic agents during the regenerative phase.[15]

Lastly, it would appear that elimination of synergistic carcinogenic combinations or of known carcinogens would have a definite salutary effect upon the worldwide incidence of this malignancy.

Acknowledgments

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References

1. Yashida, T.: Development of experimental hepatoma by use of O-amino azotoluene with particular reference to gradual changes in the liver up to the time of development of carcinoma. *Trans. Soc. Path. Jap.* 24:523-527, 1934.

2. Becker, F. E.: Hepatoma—Nature's model tumor. *Amer. J. Path.* 74:179-210, 1973.

3. Steiner, P. E.: Cancer of the liver in trans-Saharan Africa and the U.S.A. *Cancer* 13:1085-1166, 1960.

4. Davidson, C. S.: Some contributions of geographic study to understanding pathogenesis of cirrhosis. *Progress in Liver Diseases,* Vol. 1. Edited by H. Popper, F. Schaffner. New York, Grune and Stratton, 1961, pp. 1-13.

5. Wogan, G. N. and Newberne, P. M.: Dose and response characteristics of aflatoxin B1 in carcinogenesis in the rat. *Cancer Res.* 27:2370-2376, 1967.

6. Chan, C. H.: Primary carcinoma of the liver. *Med. Clin. N. Amer.* 59:989-994, 1975.

7. Koudahl, G. and Funding, J.: Hepatic artery ligation in primary and secondary hepatic cancer. *Acta Chir. Scand.* 138: 289-292, 1972.

8. Ariel, I. M. and Pack, G. T.: Treatment of inoperable cancer of the liver by intra-arterial radioactive isotopes and chemotherapy. *Cancer* 20:793-804, 1967.

9. Miura, T.: Intra-arterial chemotherapy of primary hepatoma and changes in feto protein levels. *Jap. J. Clin. Med.* 30:1201-1208, 1972.

10. Quattlebaum, J. K.: Massive resection of the liver. *Ann. Surg.* 137:787, 1953.

11. Dillard, B. M.: Experience with twenty-six hepatic lobectomies and extensive hepatic resections. *Surg. Gynec. Obstet.* 129:249-257, 1969.

12. Brasfield, R. D., Bowden, L., and McPeak, C.: Major hepatic resection for malignant neoplasms of the liver. *Ann. Surg.* 176:171-177, 1972.

13. Bucher, N. L. R.: Experimental aspects of hepatic regeneration. *New Eng. J. Med.* 277:686-696, 738-746, 1967.

14. Becker, F. F.: The normal hepatocyte in division: regeneration of the mammalian liver. *Progress in Liver Diseases,* Vol. 3. New York, Grune and Stratton, 1970, pp. 60-76.

15. Filler, R. M., Tefft, M., and Vawter, G. F. *et al.:* Hepatic lobectomy in childhood: effects of x-ray and chemotherapy. *J. Pediat. Surg.* 4:31-41, 1969.

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Cancer Data Service

Prostate Carcinoma Distantly Metastatic at Diagnosis, 1945-1974

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Kansas City, Kansas

Ed. Note: This is the fourth in a series reporting on the survival of 3,842 patients with carcinoma distantly metastatic at diagnosis (Stage IV) who were registered at the Cancer Data Service (CDS), formerly the Cancer Information Center. For previous installments see the May and October 1976, and June 1977 issues.

CARCINOMA of the prostate is the second most common cancer occurring in men and is reported to occur most frequently between the ages of 60 and 70 years. It is common for patients with carcinoma of the prostate to seek medical advice at a late stage. Reported prevalence rates for prostate carcinoma distantly metastatic at diagnosis have ranged from 9.6 to 28.4 per cent of all prostate cancer in reported series.[1, 2] Patients who present with advanced prostate carcinoma are almost always dead within five years; most dying of their disease and all dying with it.

Advanced carcinoma of the prostate has been defined as a chronic, progressive, and disabling disease that appears resistant to control. Correct treatment for advanced prostate carcinoma has not been specifically defined as therapeutic results reported in the literature have been highly conflicting. In general, however, castration or administration of estrogenic hormones is used in treating patients with advanced, metastatic, symptomatic disease. Radiation is occasionally beneficial in the local control of advanced prostatic carcinoma. All forms of therapy for advanced disease have thus far been able to provide palliation only.

Although the natural history and clinical behavior of untreated prostate carcinoma remains ambiguous, a study of 485 patients with untreated prostate carcinoma indicated that 66 per cent of those who presented with metastasis were dead within nine months. This rate was compared to 58 per cent dead within one year of those who presented without metastasis.[3]

In a review of survival literature for treated prostate carcinoma, the five-year survival rates reported for advanced prostatic carcinoma were found to range from 0 to 24 per cent.[4] Some reported survival rates for treated advanced prostate carcinoma are as follows:

TABLE 1

CDS DATA

Years	*1*	*3*	*5*	*7*	*9*
	%	%	%	%	%
1965-1974	77.3	32.7	17.1	11.4	5.7
1945-1964	59.2	30.1	16.2	9.0	6.6
Other Data					
Years	*1*	*3*	*5*	*7*	*10*
Source	%	%	%	%	%
Albany County[5]	60.2	27.4	7.4	3.0	0.0
Cancer R. & R.[6]	—	—	17.0	—	—
Recent Trends[1]	64.0	33.0	19.0	—	—
Cancer Prog.[7]	—	—	—	—	—
Ohio[8]	61.2	22.3	11.7	1.9	0.0

Cancer Data Service Information

During the period 1945-1974, the Cancer Data Service registered 1,929 cases of prostate carcinoma. Of these, 287 (15%) were diagnosed as distantly metastatic. The status of these 287 patients at last follow-up was as follows:

	No.	%
Alive without obvious disease	7	2.4
Alive with disease	41	14.3
Dead without obvious disease	26	9.1
Dead with disease	206	71.8
Unknown status	7	2.4

Data for survival comparing the 169 patients diag-

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Address reprint requests to Dr. Holmes, KUMC, 39th & Rainbow, Kansas City, KS 66103.

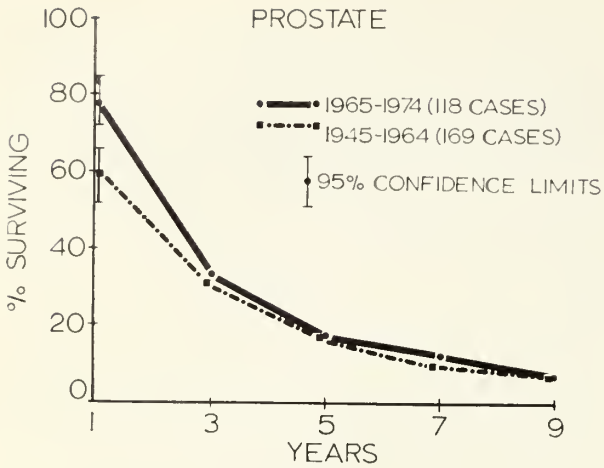

Figure 1

nosed from 1945-1964, and the 118 patients diagnosed from 1965-1974, are displayed in *Figure 1*.

Summary

Survival statistics in our study for prostate carcinoma distantly metastatic at diagnosis appear hopeful. A significant improvement at one year was the most outstanding feature of CDS data. Surgery and radiation percentages increased considerably over the last 10 years in our study, a factor which may have contributed to the improved survival. Use of chemotherapy, which also includes hormonal therapy, remained relatively stable when comparing the two intervals.

	No Treatment	*Surgery*	*Radiation*	*Chemotherapy*
	%	%	%	%
1945-1964	... 5	79	8	84
1965-1974	... 7	96	20	81

Acknowledgment

Kansas hospitals contributing cancer case data to this study are: St. Joseph's of Concordia; Mercy of Fort Scott; St. Catherine of Garden City; Halstead of Halstead; Sheridan County of Hoxie; Bethany Medical Center, Kansas University Medical Center, and Providence-St. Margaret Health Center of Kansas City; Ransom Memorial of Ottawa; Mt. Carmel Medical Center of Pittsburg; Stormont-Vail of Topeka; and St. Joseph Hospital and Rehabilitation Center and Wesley Medical Center of Wichita.

References

1. Axtell, L. M. and Myers, M. H. (eds.): Recent Trends in Survival of Cancer Patients, 1960-1971. United States Department of Health, Education and Welfare, Bethesda, Maryland. 1974.

2. Parish, H. S.: Cancer in the Rocky Mountain Region. Mountain States Regional Medical Program, Boise, Idaho. November, 1972.

3. Bumpas, H. C., Jr.: Carcinoma of the Prostate: A clinical study of 1,000 cases. *Surg. Gynec. Obstet.* 43:150-155, 1926.

4. Holland, J. F. and E. Frei, III: *Cancer Medicine.* Philadelphia, Lea and Febiger, 1974.

5. Albany County Tumor Registry: Tumor Registry Report. Albany County Health Department and the New York State Department of Health, New York. June, 1966.

6. Levin, D. L.; *et al.:* Cancer Rates and Risks, ed. 2. United States Department of Health, Education and Welfare, Bethesda, Maryland. 1974.

7. James, A. G.: Cancer Prognosis Manual. American Cancer Society, Inc., New York. 1969.

8. Ohio State University Hospitals Tumor Registry: Results of Cancer Survival and End Results, 1962-1974. The Ohio State University Hospitals, Columbus, Ohio. 1975.

Case Reports

SIMULATED GOODPASTURE'S SYNDROME

A 19-year-old male presented with a two-week history of "coughing-up blood and passing bloody urine." Prior to the onset of these symptoms, the patient was in essentially good health. No prior history of similar symptoms, lung or kidney disease, or bleeding disorder was obtained. He related judo and karate activities, with direct blows to the mid-back and mid-chest anteriorly within the two weeks prior to admission. Past history of illness was remarkable in that he was discharged, because of a schizoid personality, from the Marine Corps where he served as a Medic.

The physical examination findings were within normal limits for this normal-appearing male. Chest x-ray, EKG, and laboratory studies on admission were all in the normal range. Laboratory tests of urine and sputum cultures for acid fast bacillus and skin tests for TB and histoplasmosis produced normal results. Urinalysis revealed sheets of red blood cells with no casts, s.g. 1.014, 1+ protein. An intravenous pyelogram was unremarkable. No abnormality was noted on panendoscopy and cystoscopy, and clear urine effluxed from the ureteral orifices. Bronchoscopy revealed findings consistent with chronic bronchitis.

The sputum sample presented to the examiner was on absorbent tissue, and revealed gross red blood with no mucoid strands. A bloody urine sample was obtained with the patient voiding unobserved. Following the 45-minute interview, the patient was again asked to void, this time while being observed. A clear specimen was obtained, which on microscopic examination was normal with 0-1 red blood cells and no casts.

When confronted with the discrepancy, the patient admitted adding blood from a CBC tube to his urine and to absorbent tissue to simulate bloody urine and sputum.

Pulmonary and renal involvement suggests Goodpasture's Syndrome. However, proteinuria as well as red cells and red cell casts should be present with glomerular involvement. Although this case had a happy ending, that might not have been the outcome if invasive diagnostic procedures had been instituted to determine the extent of pulmonary or renal lesions. Factitial hematuria was previously described in literature, but this is the first report of a Goodpasture's variant of the Münchausen's syndrome.

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Special Series—I

Radioimmunoassays

ANTONIO HUAMAN, M.D.,* *Topeka*

THE CLINICAL laboratory has enriched its testing capabilities by procedures such as radioimmunoassays which have become common practice in community hospitals and doctors' office laboratories. These tests have brought to community medicine new standards of diagnosis previously available only in teaching institutions, but their seemingly unlimited expansion requires an understanding of their principle, procedure, and applications if they are to be correctly utilized in clinical practice. A review of radioimmunoassays for the clinical practitioner is presented below.

Radioimmunoassays (RIA) can be defined as immune reactions to vitro, quantitated by means of radioactive tagging and counting. Other uses of radioisotopes in the clinical laboratory include: (1) Radiodilution tests, such as blood volume determination; (2) Radio-fat absorption tests; (3) Radioactive tracer tests; and (4) Competitive binding analysis, such as the Murphy-Pattee method for determination of total thyroxine. None of these methods utilizes the antigen-antibody reaction.

The immune reaction is well known for its specificity, as well as for its sensitivity and detection problems; therefore, for use in quantitative analysis, the following refinements have taken place: (1) The antigens and antibodies have been purified to almost monovalent specificity; (2) The reaction is carried out at minimal dilutions; (3) Only precipitating antibodies are utilized; (4) The reagents have been tagged with a radioisotope for extremely sensitive quantitation. The immune reaction, thus turned into radioimmunoassay, facilitates the reliable determination of infinitesimal titers of compounds previously inaccessible to conventional biochemical methods.

Components of the Radioimmunoassays

Antigens

Antigens are proteins of high molecular weight that stimulate formation of antibodies in the animal organism. Small molecules (haptens) induce antibody formation in small animals, thus allowing for availability of antibodies to polypeptides, glycosides, and antibiotics. In discussing radioimmunoassays, we will speak of two antigens: (1) natural antigens (Ag), the material usually under determination; and (2) radioantigen (Ag*), which is tagged with a radioindicator, usually Iodine-125. The radioantigen might be identical to the natural antigen or similar to it, as in the case of bovine insulin utilized for determination of human insulin.[1]

Expanded use of radioimmunoassays for a wide range of clinical evaluations is discussed with emphasis on the universal availability and the exceptional accuracy of the results.

Antibodies

The antibodies or immunoglobulins (IgG, IgA, IgM, IgD, and IgE) react specifically with the antigens that originated them acting as acceptors of the antigens in the radioimmune reaction. Occasionally they are also tagged with radioindicators.

Radioindicators

Radioindicators are artificial radioisotopes attached to the protein molecule.[2] While beta emitters, such as Iodine-131 and Tritium-3, were used in the early days of radioimmunoassay, most of the reagents are marked with Iodine-125 today. The process of incorporation into the protein molecule is known as "Iodation." Iodine-125 emits a pure gamma radiation 24 to 35 kev. The gamma radiation at the beginning and the end of the reaction is "counted" and is expressed in count per minute (CPM).

Radioimmune Reactions

The radioimmune reaction is the "heart" of the radioimmunoassay. The reaction is a compound one in which two different immunological systems operate. These two systems use a common element, generally an antibody, upon which the two antigens compete to form separate antigen-antibody complexes. One of them includes the radioantigen and is called the "radioactive complex," while the other includes the natural antigen and is called

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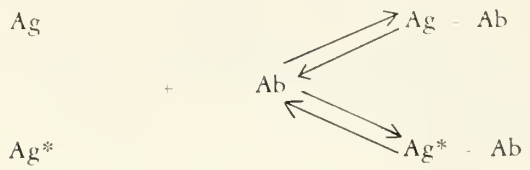
"non-radioactive complex." The reaction is summarized in the following formula:[3]



In this formula:

Ag = natural antigen (unlabeled antigen)
Ag* = radioantigen
Ab = antibody (acceptor)
Ag + Ab = nonradioactive complex
Ag* + Ab = radioactive complex

The direction of the arrows in the above formula indicates that the reaction is reversible and this reversibility depends, mathematically, on the amount of the natural antigen in the test tube. This characteristic has been enunciated as the following principle which constitutes the basis of the competitive radioimmunoassays: *The degree of displacement of the radioantigen from the natural immune complex is directly proportional to the concentration of the natural antigen in the test tube.* According to this principle, the greater the concentration of the natural antigen (substance under quantitation), the greater the displacement of the radioantigen from its radioactive complex, and the smaller the amount of radioantigen left in the same complex at the completion of the procedure.

Procedures

The procedures of radioimmunoassays are based on the same stages:

1. Extraction of the natural antigen from the blood, (*e.g.,* extraction of thyroxine from serum by alcohol).

2. Incubation of the antibody with the radioantigen leading to the formation of radioimmune complex and counting of the total radioactivity of the test tube.

3. Addition of the extracted natural antigen to the radioimmune complex in order to cause displacement of the radioantigen. At the end of this phase, the radioantigen exists in two stages:

a. "bound" to radioimmune complex;

b. "unbound" radioantigen which is made up by the displaced radioantigen and the radioantigen that never reacted at all.

4. Separation of the bound and unbound radioantigens accomplished by such methods as precipitation, absorption, chromatography, or electrophoresis.

5. Counting of the "bound" radioactivity after the "unbound" fraction has been eliminated from the test tube.

6. Calculations consist of the determination of the bound-unbound index, usually expressed in per cent of the total radioactivity of the reaction, and the construction of the concentration curve from which the concentrations of the unknown specimens are obtained.

Precautions

The practice of radioimmunoassays entails requirements that must be carried out at all times, such as:

1. Standard specimens of certified concentration should be processed with each batch of tests to ensure a new concentration curve, even if the tests are performed at different times of the same day.

2. The same equipment, test tubes, gamma counter, and quantities of solutions should be used in order to preserve the geometry of the reaction, which is of paramount importance for accuracy.

3. The statistics of gamma counting should be maintained to yield the smallest standard error possible. In practice, 10,000/minute are used as minimum to reduce the standard error to 2 per cent.

4. All precautions for handling of radiation by workers should be observed with radioimmunoassay.[4]

Types of Radioimmunoassay

Several technical refinements have been developed in order to make radioimmunoassays more accessible to everyday practice. The most common types in use are:

1. *Competitive radioimmunoassay,* which is essentially based on competition and displacement of radioantigen as described above. It is commonly used for determination of digoxin, thyroxine, insulin, and human growth hormone.

2. *Direct radioimmunoassays,* in which no competition or displacement occur. The technique provides for a formation of a non-radioactive complex first, and then addition of a radioantibody rather than a radio-antigen. This type of radioimmunoassay is used for the determination of hepatitis-associated antigen and ferritin.

3. The *solid phase radioimmunoassay,* representing a technical improvement applied to both direct and competitive radioimmunoassays. In these procedures, the antibodies are built in the inner surface of polystyrene test tubes or on the surface of polystyrene beads. Once the reaction has occurred, the liquid elements are washed off and the complex that remains attached to the test tube can be counted in a dry state.

4. The *double antibody radioimmunoassay,* in which a second and different antibody is utilized to bind the radioimmune complex, thus allowing for a more specific separation of the bound and unbound radioantigen.

Applications of Radioimmunoassays

Radioimmunoassays present unquestionable advantages for clinical practitioners and laboratorians; therefore, their expanded use in laboratory and clinical practice is

TABLE I

AVAILABLE RADIOIMMUNOASSAYS (1977)

I—Hormones

1. Hypophysis
   - Adrenocorticotropin (ACTH)
   - Thyroid stimulating hormone (TSH)
   - Folicle stimulating hormone (FSH)
   - Prolactin
   - Human growth hormone (HGH)
   - Oxytocin
2. Adrenal glands
   - Aldosterone
   - Corticosterone
   - Corticoids
   - Cortisol
   - Desoxycortisol
   - Desoxycorticosterone (DOC)
3. Thyroid gland
   - Thyroxine (T4)
   - 3-Iodo-thyronine (T3)
   - Calcitonin
4. Gonads
   - Androstenedione
   - Dehydroepiandrosterone (DHEA)
   - Dehydrotestosterone (DHT)
   - Estradiol
   - Estriol
   - Estrogen
   - Estrone
   - Hydroxyprogesterone
   - Luteinizing hormone
   - Pregnenolone
   - Testosterone
   - Epitestosterone
5. Placenta
   - Human chorionic gonadotropin (HCG)
   - Human placental lactogen (HPL)
   - Human chorionic somatomammotropin (HCS)
6. Other organs
   - Prostaglandin E & F
   - Bradykinin
   - Insulin
   - Parathyroid hormone
   - Angiotensin I (renin)
   - Angiotensin II
   - Gastrin
   - Glucagon

II—Drugs

- Amikacin
- Amphetamine
- Barbituates
- Cocaine
- Digitoxin
- Digoxin
- Ouabain
- Diphenylhydantoin (DPH)
- Gentamicin
- Methaqualone
- Methotrexate
- Morphine
- Tobramycin
- Vasopressin
- Tetrahydrocannabinol

III—Diagnostic Antigens

- Carcinoembryonic antigen (CEA)
- Alfa-feto protein (AFP)
- Hepatitis associated antigen (HAA)

IV—Diagnostic Antibodies

- Anti-nuclear antibodies (Anti-DNA)
- Thyroid autoantibodies
- Immunoglobulin E

V—Metabolites

- C-Peptide
- Folic acid-folate
- Ferritin
- Cyanocobalamin
- Myoglobin
- Beta-2 microglobulin

not surprising. Those now available are summarized in *Table I.*

For clinicians, radioimmunoassays have opened to objective clinical evaluation areas that were previously inaccessible to conventional biochemical methods. Entities which can now be measured in spite of their minute concentrations in the body fluids include:

Hormones—Radioimmunoassays have replaced the bioassay methods for hormone determination with distinct advantages in accuracy, sensitivity, turn around time, and quality control. The molecular specificity of the hormone is fully utilized for testing, thus eliminating biologic cross reactions with other hormones. Although there is a certain reserve about correlations between blood levels and biologic action, clinically speaking there are undisputed advantages of radioimmunoassays in the determination of thyroid hormones (thyroxine, 3-iodothyromine), the determination of hormones of the anterior pituitary gland (AGH, FSH, TSH and lactogen), determination of blood insulin levels (especially for early diagnosis of diabetes[5]), and determination of chorionic gonadotropins, gastrin,[6] and other hormones.

Drugs—Blood levels of drugs correlate with the therapeutic efficiency and toxicity but not too well with dosage, since blood levels are not exactly the function of the administered dose but of the bioavailability of the drug itself and the absorption characteristics of the patient. At the present time, determination of digoxin, gentamicin, tobramycin, and other agents are a matter of routine in most hospitals. Toxic drugs are also handily determined when drug overdose or drug addiction are suspected. There are reliable radioimmunoassays for determinations of morphine derivatives, tetrahydrocannabinol (marihuana), amphetamine, and others.

Antibodies—Investigation of antinuclear antibodies by radioimmunoassays is replacing immunofluorescent techniques for the diagnosis and evaluation of systemic lupus erythematosus. Other antibodies tested in this manner are those related to allergies which through the RAST test can be traced back to the antigen that stimulated their formation.[7] There is recent interest in the determination of beta-2 microglobulin in blood and urine to evaluate the glomerular filtration and tubular function in renal disease.[8] Beta-2 microglobulin parallels the rise of creatinine in serum and appears in the urine when tubular reabsorption is impaired.

Diagnostic antigens—The antigens determined by radioimmunoassay are the carcinoembryonic antigen (CEA) for the diagnosis and follow-up of colonic carcinoma and carcinoma of other entodermic organs. Determination of alpha-feto protein for the diagnosis of hepatoma and determination of hepatitis associated antigen (HAA) are common. The latter has radically improved the safety of blood transfusions by eliminating blood donors that carry the HAA, although many of them had never had clinical hepatitis.

Metabolites—A number of compounds normally present in the human body have diagnostic applications. A determination of ferritin, folic acid, and vitamin B-12 by radioimmune techniques is used in the classification of anemias. The determination of myoglobin promises to be extremely helpful in the diagnosis of myocardial infarction,[9] since this substance appears in the blood stream as a result of myocardial necrosis. This will probably become a routine determination in the near future.

The advantages of radioimmunoassays are also obvious for clinical pathologists and medical technologists. In addition to their remarkable specificity and sensitivity, they surpass conventional methods in accuracy; results can be reproduced within one standard deviation and are commonly duplicated.

Most of the radioimmunoassays are presently available in kit form which can be processed by almost any laboratory. The kits have obviated the local purification, titration and iodation of reagents, since such delicate steps are done under strict industrial standards by the manufacturing companies. The kits also have the advantage of nation-wide quality control and nation-wide equivalency of results when the techniques provided with the kit are strictly followed by the performing laboratories.

Finally, there are the financial advantages of automation, since radioimmunoassays are based on the same principles and utilize the same instruments. Automation has, in fact, made radioimmunoassays available to literally every physician in this country at a relatively low cost per test.

References

1. Yalow, R. S. and Berson, S. A.: Immunoassay of endogenous plasma insulin in man. *J. Clin. Invest.* 39:1157, 1960.

2. Wagner, H. N.: The radiopharmaceutical. In *Principles of Nuclear Medicine.* Philadelphia, W. B. Saunders Co., 1969, pp. 259-301.

3. Reynoso, G.: Competitive protein binding and radioimmunoassays. American Society of Clinical Pathologists, Chicago, 1972.

4. Radiation Protection Regulations. Kansas State Department of Health and Environmental Health Services, Topeka, 1972.

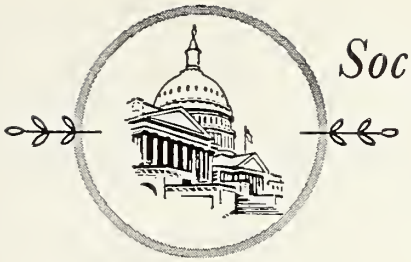
5. Kraft, R.: Detection of diabetes mellitus "in situ" (Occult diabetes). *Lab. Med.* 6:10-22, 1975.

6. Kumar, M. S.; Caplivski, G. and Deodhar, S. D.: Clinical evaluation of gastrin radioimmunoassay. *Lab. Med.* 8:6-18, 1977.

7. Johansson, S. G. O.; Bennich, H. H. and Berg, T.: The clinical significance of IgE. *Progress in Clinical Immunology.* Vol. 1, 1972.

8. Wibell, L.; Ervin, P. E. and Berggard, I.: Serum beta-2 microglobulin in renal disease. *Nephron* 10:320-331, 1973.

9. Kagen, L.; Scheidt, S. and Roberts, L.: Myoglobinemia following acute myocardial infarction. *Am. J. Med.* 58:177-182, 1975.



Socio-
ECONOMICS

AMA—Washington Office

What It Does and How It Functions

(Ed. Note: The following represents a reply of the American Medical Association to a request by J. Alfred Fabro, M.D., Editor of *Connecticut Medicine,* and is reprinted here for informational purposes for our readers.)

PHYSICIANS feel frequently that the Federal Government is far too much involved these days in their profession's and patients' destinies.

Indeed, physicians can hardly be blamed for feeling this way.

Increasingly the Congress demonstrates its preoccupation with health and medical care by tinkering with it. Congress schedules and holds hearings; debates and passes bills; and functions overall so industriously that of the 25,000 or so measures introduced into each Congress, some 10 per cent bear directly or indirectly on health.

Once the new laws are on the books, the administrative agencies take over the business of implementation. That means that regulations must be drafted and argued and adopted.

Neither legislation nor regulation can be ignored. As true as it is that the power to tax is the power to destroy, so the power to regulate can be the power to paralyze, to strangle, and ultimately to destroy. Intelligently drawn regulations can make poor laws workable and badly drawn regulations can make good laws unworkable.

And so the symbiotic relationship on laws that exists between the legislative and the executive branches of the Federal Government demands unremitting vigilance.

The American Medical Association exercises that vigilance, and has since 1944, through a Washington Office.

The Washington Office has a number of functions:

- It is an intelligence-gathering organization, charged with the responsibility of staying abreast of Congressional thinking, planning and action; and with maintaining an equally close vigil on the doings of the various executive departments and agencies.
- It is a podium from which to disseminate AMA thinking on a variety of subjects of concern to government—AMA agreement, disagreement, caution, modification, proposed solution, or information to lawmakers and media alike.
- It is a mechanism for providing service to legislators and administrators; an on-the-spot AMA presence; a two-way conduit between those who make and administer the laws and the medical professionals who must live with the laws and try to make them work.

There is no perfect way for the Washington Office to go about its complex tasks. In consequence, neither table of organization nor administration method have remained immutable over the years. Efforts to increase the effectiveness of the Washington Office are always being made.

But in general, the Office works as a modestly staffed, highly specialized group of experts who serve as the extended arm of the AMA in Chicago.

Today the Washington Office is a unit of the Division of Public Affairs, linked so closely with Chicago by tie-lines, teletype and thermofax that contact is continuous throughout the working day. And often goes on well after the day has ended.

Under the Washington Office Director and his deputy are these key people:

A director and four assistant directors of the Department of Congressional Relations. Between them, these five men cover all 535 Members of Congress and their staffs; and work particularly closely with the staffs and Members of those key committees through which the bulk of important health legislation must pass.

Each lobbyist is also assigned the responsibility of maintaining liaison with a number of state medical societies.

The deputy director of the Washington Office is also director of the Department of Federal Affairs which works closely with the departments and agencies of the executive branch. Within this department are also two legislative attorneys who research major federal legislation affecting health; attend hearings; monitor the *Congressional Record* and the *Federal Register;* work closely with the Division's Legislative Department back in Chicago; touch bases frequently with the lobbyists; and help staff all meetings of the AMA's Council on Legislation.

A four-man Communications Department deals with media, covers the Washington scene for *AM News* and *JAMA*, helps Congressional staffs with research or speech material, etc.

Supporting all of this broad activity is the library, which serves staff, the general public, Congress and the Federal agencies.

So much for the administrative unit: how does it work to reflect AMA policy?

First, the AMA's legislative objectives are set by its House of Delegates, usually in broad policy guidelines. These guide the AMA's Council on Legislation when the time comes for it to review the many and varied issues developing in government.

The Council then recommends to the Board of Trustees that legislation be proposed, supported, amended or opposed. Once the Board has acted, its decisions are sent to the Public Affairs Division for appropriate action in Chicago and Washington.

It is in this way that practicing physicians' viewpoints and supporting arguments are made known to the legislative and executive branches of government.

By and large, this method has proved effective. Some AMA viewpoints are indeed rejected. But many are accepted; and many more help shape compromise positions.

The Congress usually welcomes AMA viewpoints because it recognizes that the public cannot be well served unless all portions of a question are carefully weighed. Thus, such independent forces as organized medicine contribute to the public weal by studying and questioning what government does and does not do.

In summation, the AMA-Washington Office is an important component of a complex mechanism designed to convey the individual American physician's viewpoint to the Federal Government.

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The President's Message

Rationing of Care

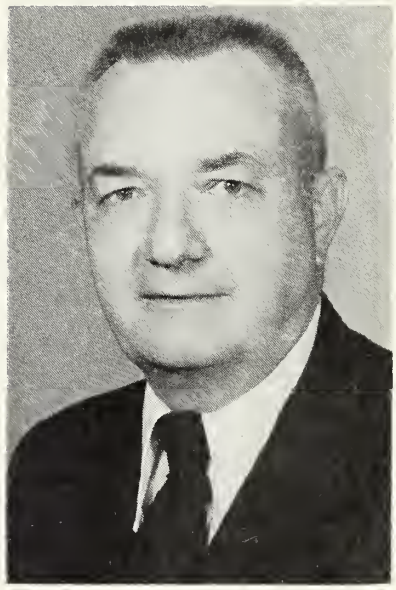
In medicine as in other purchases, the buyer gets what he pays for. There is no steak-house medicine at hash-house prices. Prices of care cannot be harshly cut without cutbacks in the quality or quantity of care.

Those hard-boiled truths are obvious to us physicians, who deal with costs as a day-to-day reality rather than a pliable abstraction. And in its somewhat devious way, the federal government seems to perceive those truths, too. The government's cluster of programs and proposals for containing costs is made to look like pure benefit for the patient, without any actual loss on his part. What they generally boil down to upon analysis, however, is rationing of care.

This was a central point—and a central danger—posed by Richard E. Palmer, M.D., in addressing the AMA's annual convention last June as its outgoing president. Dr. Palmer identified rationing of care as a common denominator of proposed restraints in so-called unnecessary surgery covered by public funds, HMOs, the Health Planning Act of 1974, the push for generic drugs, and the proposed "cap" on hospital charges as a prelude to the Administration's National Health Insurance proposal. On the proposed ceiling on hospital charges, he asked: "Is it not predictable that the most creative, resourceful, and conscientious hospitals would suffer from such economic artifice? Or that in treating all hospitals alike, the cap would penalize those that are already efficient, as a Senate health expert was quoted?"

Apropos hospitals, it must be recognized that some lack efficiency; that some communities are over-bedded; and that costs—the number one health-care concern of the public—can be restrained without disastrous results to quality. The medical field—through such means as the AMA's Commission on the Cost of Medical Care—must do its practical best against the economics that encourage federal rationing of health services.

In the matter of HMOs, Dr. Palmer noted that these have been hailed on Capitol Hill as "a great piece of ammunition" against rising medical costs. But what about the amount of care, he wondered. Recent studies indicate



that HMO physicians see their patients less often and give less service—including preventive care—than do fee-for-service physicians. Shrinkage of service also could be the upshot of any NHI program that would ape Britain's National Health Service, said Dr. Palmer. For it has happened there.

As he summed up: "No individual—and ours is a nation of individuals—wants his care to fall victim to cost-effective common denominators. No individual wants his own care to be rationed." Physicians at the local level should get this point across—as the government sharpens its ax against *necessary* costs.

Fraternally yours,

John D. Huff M.D.

President

Seductio ad absurdum

There is a tide in the life of medical journals which, taken at the flood, results in a supply of publishable material beyond reasonable use. Then it is that editorial boards find life sweet, interpreting the plentitude as evidence of their wisdom and worthy custodianship of the publication. The sundry authors, on the contrary, chafe at the long delay in seeing their masterpieces embark on their journey to *Index Medicus,* convinced that said boards are peopled with craven despots incapable of appreciating literary merit or scientific accomplishment. But inevitably the tide ebbs and these same board members are confronted with the dismal prospect that, if the pages are to be filled, they themselves will be forced to put pen to paper or at least mouth to microphone. Under such circumstances, emergency measures are in order and are apt to be implemented by a majority vote (with only one dissenter) that the editor come forth with a compelling device to persuade potential contributors to get with it.

This, then, is an exercise in seduction, an activity in which, in the traditional sense, we have had little experience and less success. It is probable that our approach may prove a little heavy handed, with frequent reference to the procedures set down by the various experts. Anyway, readers are given fair warning that they are the objects of our blandishments by which we hope to persuade them to be willing partners in a mutually satisfying experience. In fact, we are not total strangers to this journalistic seduction and try to face the proposition realistically. In our previous efforts, for example, we have noted that journals based on regional appeal or organizational function are deprived of a certain element of glamour accorded the more distant or highly specialized organs. The familiarity of the readers (and prospective contributors) with the periodical itself and their first name acquaintance with the above mentioned board renders our persuasive effort subject to the same deflation experienced by the neighborhood Casanova, who is certain his intended victim is approaching a willing state only to have her giggle and say, "Do you remember when you threw up on your geography book in Miss Kistler's second grade?" But let the lecher originate from outside the environs and his image is enhanced proportionately. This appeal associated with distant origins defies the laws of magnetism but is an attitude basic and natural to the human mind and must be accepted. On the menu, *pate de foie gras* has more appeal than goose liver, and certainly an opera by Giuseppe Verdi is more impressive than one by Joe Green.

But it isn't only a matter of distance—there is the concomitant element of prestige. The status the seducee hopes to achieve by submission can be a strongly persuasive factor. Who can doubt that the beautiful dairy maid is more apt to repulse the advances of the goat boy if she thinks the panting lord of the manor is waiting on the other side of the haystack? (Of course, the goat boy may start a line of hypo-allergenic products, hit it big, and return to sneer at the now lady of the manor who is having to take in tourists to meet the taxes—but such can only be fable.) Our campaign to entice manuscripts suffers, we are aware, from the fact that most potential authors are certain that their products would be more suitable in the rarefied atmosphere of, say, *The Lancet* than wasted on the desert air of the local scene. There's a satisfaction in commenting, "Well, I got my paper off to the *New England Journal,*" even if a subsequent (and unpublicized) rejection follows.

So we are faced with the dilemma, how do we increase our prestige so as to attract these elevating papers without having the papers to increase our prestige? We can at least point out that our authors do get exposure in the far reaches by our JOURNAL exchange program. And you would be surprised at the exotic areas from which we get requests for reprints. In fact, we are surprised ourselves, and if we didn't have a managing editor who is an accomplished linguist, we'd sometimes have no idea who wanted what.

At the same time, we recognize that we contribute to our own problem by the execution of our editorial duties and suspect it is related again to a deficiency in our

preparatory education in seduction. We were apt, we admit, to set certain requirements of form and face on our intended victims with the result that we may have overlooked some good bets. But it points up the fact that even if our persuasion brings a load of papers in the next mail, we must still peruse them for acceptability. Proposition does not guarantee consummation. And the necessity to reject does little to promote additional offerings, at least from the same source. After all, the bounder who would lead Nell part way down the Primrose Path only to abandon her is the ultimate in cads. And Nell, even if (or especially if) left unsullied, cannot avoid a feeling of being miffed at the implication that she couldn't, at the moment of truth, measure up to being seduced. There are some things a girl can't tolerate.

In the journalistic idiom, then, we can understand the feelings of those who have been encouraged only to have their efforts declined with a "thanks but no thanks." In our experience, medical authors will tolerate ravishment of their wives or vandalism of their red Porsches before they will accept editorial criticism of their brain children. So we do have to condition our pleas with an escape clause—the editorial prerogative still applies. Beyond the matter of acceptance, this means that we will be glad to continue our policy of dotting i's and crossing t's, but our willingness to rewrite the offered manuscripts will not extend beyond the effort we would have expended if we had written them in the first place. Gift horses can be fitted with dentures but not reborn.

So it seems to come down to a simple fact: we need each other. The goat boy may not be the greatest catch in the land and the dairy maid may not be all that beautiful out in the bright sunlight. Nevertheless, if the guy doesn't want to turn to a life of celibacy and the maid hopes some day to find more in life than those bleeping cows, they would do well to consider the potential that each has to offer and rejuvenate the liaison.

As a matter of fact, there is a tremendous amount of worthy medical material in this state and putting it together in suitable form for publication isn't all that difficult. And this JOURNAL is a respectable repository for this material. The formal article complete with methods, materials, findings, and discussion is a worthy accomplishment. But case reports and clinical observations have a place. The rambling, anecdotal discourse, while suitable doctor's lounge fare, will have trouble finding publication not because it lacks interest or some possible significance, but it is necessary to hold to a basic format which will sustain the comment against appropriate criticism. (Even so, there is VOX DOX.)

Kansas fosters a range of medical practice from a level as down to earth and practical as the pip to the highest expressions of esoteric theory and sophisticated gadgetry. It encompasses the problems of dilution of population in the rural areas and concentration in the urban areas. Medically, it has led—and it has dragged its feet. These things need to be written down. As keepers of the record, we hope we can entice you into doing it. We're waiting to read it and other people are too—more than you realize. Where else can you be seduced to better purpose? —*D.E.G.*

Vox Dox

Vox Dox Editor:

Physicians across the country have long felt the need for greater clarity in the approach to the treatment of high blood pressure and for guidance in the management and the education of hypertensive patients. The Report of the Joint National Committee on Detection, Evaluation, and Treatment of High Blood Pressure answers these needs. This report marks the first time representatives of major medical associations have reached a consensus on hypertension management.

One of the most important features of this report is its simple, economic approach to diagnosis and treatment. Blood pressures are specified as requiring further investigation, periodic follow-up, or treatment. Updated guidelines for therapy have been formulated. The report presents a pharmacologic rationale for the "stepped-care" approach to therapy. The report also offers guidance in increasing compliance through patient education and through approaches to patient management.

Orders for this important publication are being taken now. We encourage you to inform members of your state and county medical society about it by announcing its availability in your state medical journal for the convenience of your members.

Copies of the Joint National Committee Report may be ordered from the High Blood Pressure Information Center, 120/80 National Institutes of Health, Bethesda, MD 20014.

GRAHAM W. WARD, Program Coordinator
National High Blood Pressure Education Program
Dept. HEW
Bethesda, MD 20014

Vox Dox Editor:

When I read the letter from Dr. Cyril Black, of Pratt, in the July 1977 issue, I first became angry, then confused, and then very disheartened. Dr. Black is evidently confused over the purpose of the Kansas Emergency Medical Training Program, which includes the Emergency Medical Technician (EMT) and the Emer-

gency Mobile Intensive Care Technician (EMICT). We are training EMTs to assist in all phases of care when asked, but primarily to handle life threatening situations before the doctor is available.

The leading cause of death among the middle aged and older population is heart disease, and among younger people it is death due to accidental injury.

I am not an expert with a 12-lead EKG, but I can recognize and treat a death producing arrhythmia which an MI patient may present. Heart attacks often happen at home with the family in near hysteria, or in public with crowds of bystanders—not in the hospital under "ideal" circumstances. The proper care of an accident victim with a spine board and cervical collar may prevent quadraplegia, and IV may prevent severe shock.

1,500-2,000 hours for an EMICT class is only a fraction of the time a doctor must spend in school, but the emphasis of our training is on the care we can give which will be most helpful to the patient in the field. If we all work together, many cardiac patients do not have to die needlessly, and many young people will live and walk because they received appropriate and timely emergency care.

The best way to learn patient care is to be exposed to it. I saw at least six films on childbirth, but it was only when I actually delivered a baby in the ambulance that I realized all that was involved. Had I been able to assist with deliveries while in training, I would have been much more confident.

I am not saying we are all perfect. There are poor quality people in many medical related fields. Hostility toward an entire profession, because of the actions of a few, is not fair to anyone, doctors, nurses, or EMTs.

If EMTs are not well trained, the person who will lose in the end is the patient. People will continue to die of heart attacks and car accidents; but many can be saved, and suffering and injury minimized. With proper on-the-scene care, the doctor's job can be made much easier.

Every doctor should get involved with the local Emergency Medical Service. By assisting with training programs and providing guidance for the EMT and EMICT, the doctor can play an important role and actively participate in EMS programs. This will benefit everyone.

Gene Roberts, EMICT, Director,
Winfield Area Emergency Medical Service,
Winfield, KS 67156

Vox Dox Editor:

I respect and understand Dr. Cyril Black's comments on the ambulance personnel in Pratt. I am a former citizen of western Kansas, and was admitted to medical school, in part, on the basis of my paragraph describing the need of medical care in western Kansas.

The ambulance service personnel in Winfield exercise exemplary wisdom in their conduct and verbalization of their experiences. It is unfortunate other locations have experienced such an unsavory demonstration of immaturity in ambulance personnel.

I wish to support the EMICT we have in our community.

Robert B. White, M.D.
Winfield, KS 67156

WANT DIVIDENDS ON YOUR INSURANCE?

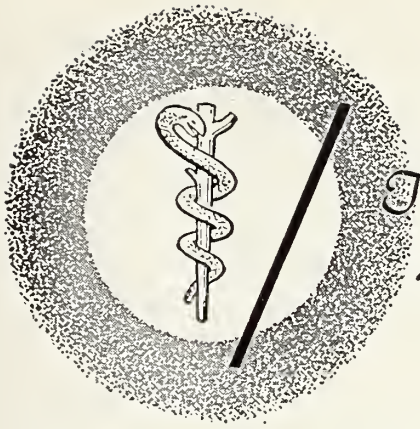
Physicians now have an opportunity to reduce their expenses for Workmen's Compensation Insurance under a program recently approved by the Kansas Medical Society.

The program provides dividends based on claim experience for employers who are definitely interested in employee safety and in earning a good safety record.

Results vary according to the yearly claim costs for those insured in this savings class. Even though standard rates must be charged initially, premium is returned as dividends when claims expenses are low for those participating.

Physicians in Minnesota, insured in an identical plan, have earned savings ranging from 35-47 per cent of yearly premium over the past five years.

The service is provided by Casualty Reciprocal Exchange, a member of the Dodson Insurance Group, 92nd Street and State Line, Kansas City, MO 64114.



The Kansas Press Looks at Medicine

An Answer to Doctor Dilemma

A new plan for recruiting young doctors for Kansas rural areas shows promise of being the answer to this perplexing problem.

Some parts of the state just do not have enough physicians to serve health needs. Many medical students choose to specialize and locate in larger centers near sizable hospitals. Though several smaller cities have provided clinics and have good hospitals, it is often difficult to obtain physicians to staff them.

Ninety-nine of Kansas' 105 counties have fewer than one doctor per each 639 persons—the national average.

The new plan—called Mediserve—will provide loans to medical students who promise to practice for five years in Kansas rural areas underserved by physicians. Candidates for these loans will be approved by local medical societies and county Farm Bureaus, but the University of Kansas Medical School retains the right of final approval.

Three factors promise success for the program:

—It is not "government-operated." It was devised and will be operated by the University of Kansas Medical School, the Kansas Medical Society and the Kansas Farm Bureau.

—It does not depend on compulsion. Students will be free to apply or not to apply for the $1,500 annual tuition loans at 4 per cent interest. The loans must be paid, starting four years after graduation.

—The plan is patterned on successful ones in Illinois and Kentucky.

Already, at least 25 applications have been or are being made for the 20 student slots, and $20,000 has already been given toward the plan.

Kansans can hope Mediserve will be successful and will help provide medical services to rural Kansas.—*Topeka Daily Capital,* Aug. 16, 1977.

The Costs of Insurance

The ultimate in malpractice litigation may have occurred in New Jersey about a year and a half ago: the state Consumer Affairs Division, in a sentimental moment, brought malpractice charges against a veterinarian who had refused to treat a sick kitten because its little girl owner had no money to pay the veterinarian, and the kitten died.

But another sort of precedent was set in Florida in May of this year. An orthopedic surgeon had been sued by a patient who complained that the doctor had implanted too long a rod in his broken arm to help it heal. The insurance company wanted to settle out of court, but the doctor, who considered the suit frivolous and his treatment correct, refused, and the insurance company canceled his malpractice policy. Finally, just before the case was due to come to trial, the plaintiff's attorney dropped the suit. The doctor countersued both the lawyer and the former patient, charging malicious legal prosecution, and the judge and jury agreed. The doctor won a $175,000 judgment.

The sometimes-mindless generosity of jurors in setting amounts of damages in medical tort cases and the soaring cost of medical malpractice cases has been economically painful to doctors, health care institutions and patients alike for the past couple of years. Patients suffer because

they must pay higher fees so the doctors can meet their increased expenses.

To protest the out-of-hand situation and soaring insurance costs, California doctors for a few weeks staged a slowdown which forced some hospitals to cut back on non-emergency services. Some doctors in Alaska were refusing to accept as patients relatives of lawyers involved in medical liability litigation.

To prevent that sort of thing in Kansas, the legislature in 1975 passed bills intended both to tighten up the rules governing such litigation and, in effect, impose stricter professional oversight by encouraging the reporting of possible malpractice incidents to appropriate state boards. The legislature also made it mandatory for all health care professionals and institutions to carry malpractice insurance, required insurance companies to provide such insurance, and set up a so-called health care stabilization fund pool to cushion the effect of medical liability case damage awards which might exceed the amount of coverage provided by a defendant doctor's or institution's own policy. Each policyholder is required to contribute, initially, an amount equal to 45 per cent of his malpractice insurance premium to the pool.

Dr. Byron Liggett, a Great Bend neurologist, refused to participate, contending that as a competent and conscientious physician he does not need malpractice insurance. The state sued to prevent him from practicing medicine until he gets the required insurance, and District Court Judge Frederick Woleslagel has so ruled, but Dr. Liggett has said he will appeal—to the U. S. Supreme Court, if necessary. He argues the insurance requirement is unconstitutional.

So there the matter stands. Had the judge agreed with the doctor, the Kansas law might have become invalid pending further legislative action. As things stand, the law remains operative until the Supreme Court rules otherwise.

Nobody doubts that most doctors conscientiously give their patients the best care they can. But meanwhile, the high cost of the requirement and the extra precautions doctors must take to minimize the possibility of facing litigation means we're all paying a lot more for health care.—*Wichita Beacon,* Aug. 9, 1977.

Practice Judgment

The Great Bend *physician* who challenged the state's authority to require him to buy malpractice insurance minced no words about this week's court decision in favor of the state.

The judge who handed down the decision, says Dr. Byron Liggett, was bowing to bureaucratic pressure, not to the merits of Liggett's case, which was based on Constitutional arguments.

Could be, but pardon a doubt.

The judge was confronted with some fundamental issues concerning the power of the state to regulate the practice of medicine.

Liggett, who refused to buy malpractice insurance after the Legislature imposed the requirement last year, was involved in what some viewed as a direct assault on that power.

For the moment, and pending appeal, the judge laid that to rest with the simple statement that practicing medicine is not a basic right, but a privilege conditioned by appropriate and well-reasoned safeguards imposed by law.

That the society needs such constraints seems so clear as to be beyond remark.

Liggett is right in one statement—that physicians have a moral and ethical responsibility for competent care.

But he is off-base when he suggests that that care can't be accomplished with "some hungry malpractice shyster" looking over the doctor's shoulder.

This isn't one of those chicken and egg arguments. The fact is that malpractice awards never would have become so common without some basis for court action.

And that responsibility rests squarely on doctors.—*Hays Daily News,* Aug. 6, 1977.

KMS Obituaries

J. O. GILLILAND, M.D.

Dr. J. O. Gilliland, 68, died August 29, 1977, in Herington. He was born September 22, 1908, in Mangum, Oklahoma.

Dr. Gilliland was graduated from the University of Oklahoma School of Medicine in 1932. He practiced in Oklahoma and Texas, and with the United States Army Medical Corps, prior to coming to Herington in 1946, where he served the community in general practice for the past 31 years.

Survivors include his wife and a son. A memorial has been established in his name with the Cancer Society.

VICTOR R. MOORMAN, M.D.

Dr. Victor R. Moorman, 61, died September 8, 1977, at his home in Hutchinson. He was born in Woodward County, Oklahoma.

After graduation from Kansas University School of Medicine at Kansas City, he took an internship in South Carolina, served in the armed forces, and studied his specialty for three years at Barnes Hospital in St. Louis. In 1949 he established an otolaryngology practice in Hutchinson which continued until his retirement in June.

Survivors include his wife, a daughter and two sons. A memorial fund has been established with Hutchinson Community College.

HARCHARAN S. SEHDEV, M.D.

Dr. Harcharan S. Sehdev, 41, of Topeka, died July 7, 1977, in Breckenridge, Colorado. He was born July 15, 1935, in India.

Dr. Sehdev was graduated from the University of British Columbia School of Medicine in Vancouver in 1963. At the time of his death, he was director of children's division of the Menninger Foundation.

He is survived by his wife. A memorial fund for children's books has been established in his name with the Menninger Foundation.

AMA House of Delegates

Summary of Actions Taken at the 126th Annual Convention, San Francisco, California, June 19-23, 1977

Many of the issues that are considered by the AMA House of Delegates parallel those debated in the Kansas House of Delegates. Broader issues are considered due to the diversity of economic, social, political, and geographic factors which influence the national forum. There is studied and sincere debate, sometimes heated but always gentlemanly. Now to the highlights and main points.

Secretary of HEW Joseph Califano addressed the opening session Sunday afternoon but many paragraphs appeared identical to those uttered by an under-secretary of his department, who spoke to the state presidents earlier in the day. Mr. Califano came down hard on the medical profession with regard to increased costs of the health care package. Although politely received by the assembly, there was more applause for AMA Executive Vice President James H. Sammons, when he rebutted Mr. Califano's remarks at a later time. The HEW Secretary called the administration's cost control proposal a stop-gap measure until there could be long-term reform which would include "a fair and effective system of National Health Insurance."

The House of Delegates reaffirmed support of the AMA's comprehensive health care insurance proposal as introduced in Congress while vigorously opposing nationalization of the health care professions.

The House placed high priority on a national immunization program, stated that laetrile has no proven value as a drug, but supported the marketing of saccharin as a food additive, over-the-counter product with a warning label. The House called for federal hospitals, HMOs, and other federal health facilities to abide by the same regulations as non-federal health facilities.

A hard hitting public relations campaign was mandated and is to have a progress report to the delegates in 90 days. A new section for deans and medical school representation sat in the House for the first time at San Francisco—furthering efforts to interface academic and private medical practice. The role of ancillary personnel and physician extenders was reviewed and monitoring of these programs is to continue.

Your AMA Delegates will continue to answer specific inquiries and carry to the House of Delegates those resolutions properly presented by the medical profession of Kansas.

Clair C. Conard, M.D., AMA Delegate
Alex Scott, M.D., AMA Delegate
Lew W. Purinton, M.D., AMA Alternate
Kermit G. Wedel, M.D., AMA Alternate

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Personalities—IN KANSAS MEDICINE

Richard A. Walsh, Wichita, has been named acting dean of the KU School of Medicine, Wichita Branch.

Serving as a speaker at the meeting of the Fort Scott Ostomy Association was **William Aldis**, Fort Scott.

James W. Wilson, Coffeyville, was named director of the health division of the Kansas Department of Health and Environment.

Directing a free blood pressure clinic at Meade was **Dorval H. Donahoe**, Meade.

Vernon L. James, Wichita, lead a discussion of problems diagnosed among infants at an "Outreach" clinic held in Wichita.

Featured speaker at a session of education classes for arthritics was **Wayne O. Wallace**, Atchison.

J. Warren Jacks, Pratt, was re-elected chairman of Blue Cross of Kansas at the annual meeting of the Board of Directors in Topeka.

Speaking on "Child Abuse" at the meeting of the Lyon County Chapter of Licensed Practical Nurses was **W. Scott Ryan**, Emporia.

Henry S. Blake, Topeka, has retired after 30 years of practice.

Norman C. Bos, Hutchinson, has been named secretary-treasurer of the Mid-Central States Orthopaedic Society, Inc.

Governor Bennett presented the Distinguished Kansas Award to **C. E. Henneberger**, Atwood, who is retiring after 60 years of medical practice.

Richard Guthrie, **Eugene Kaufman**, and **Duane Murphy**, all of Wichita, were among the speakers at a recent seminar in Wichita concerning the training and conditioning of teenage athletes.

A course in cardiopulmonary resuscitation was taught by **William Truitt**, Topeka, as part of the recent 10th annual Youth Safety Seminar at Rock Springs Ranch.

On the occasion of his retirement, **Cecil Hunnicutt**, Sabetha, was honored at a reception sponsored by the Sabetha Chamber of Commerce.

Frances Campbell, Newton, was keynote speaker at a program at Prairie View concerning various aspects of sexual assault awareness and education.

James T. Lowman, Kansas City, has been appointed dean of University of Kansas School of Medicine.

New appointees to the state Board of Healing Arts include **James A. McClure**, Topeka, **Paul L. Rodriguez**, Garden City, and **Alfred H. Thiemann**, Sublette. Those retiring from the Board are **George D. Marshall**, Colby, and **C. J. Cavanaugh**, Great Bend.

Robert Polson, Great Bend, has been appointed by Governor Robert F. Bennett to serve on a special committee to study nursing homes in Kansas and make recommendations to the 1978 legislature.

Thomas Dechairo, Westmoreland, was honored for 40 years of service to the community.

An Appreciation Fund has been established honoring **Kenneth Conklin**, Abilene, for his 40 years of service to the community prior to his retirement in 1974.

Governor Bennett recently appointed **Porter Barbera**, Independence, to a four-year term on the Kansas Crippled Children's Advisory Commission.

James C. Mershon, Wichita, was selected president and **David M. Pugh**, Shawnee Mission, was elected vice president at a recent meeting of the Kansas affiliate of the American Heart Association. Additionally, new board members include **M. M. Swan**, Great Bend, and **Dwight Lawson**, Topeka.

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THE MENNINGER FOUNDATION

Continuing Medical Education for the Physician

Psychological Medications for Primary Care Physicians: November 11-12, 1977. This seminar will afford an overview of the types of psychotropic medications and their uses, their side effects and how drugs interact with one another. Robert Obourn, M.D. will be the seminar leader.

Alcoholism: Pathways to Understanding and Recovery: November 17-18, 1977. This seminar is for physicians who desire understanding of goal-setting and effective treatment of alcoholism seen in their daily practices. George Penn, M.D. will be the seminar leader.

Family Therapy: Concepts and Practice for the Primary Care Physician: February 2 - 3, 1978. This workshop will give physicians an understanding of family therapy and how it can be woven into their daily practice. C. Alton Barnhill, M.D. will be the seminar leader.

CME credit available — All workshops will be in Topeka, Kansas.

For further information please contact June Housholder, Division of Continuing Education, The Menninger Foundation, P.O. Box 829, Topeka, KS 66601. 913/234-9566, ext. 3685.

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And for good reasons. Diet alone doesn't always work. CHOLOXIN® (sodium dextrothyroxine) has proved itself to be an effective cholesterol lowering adjunct to diet in euthyroid, non-cardiac patients. It has undergone ten years of clinical trials and eight years of practice. The clinical trials consisted of 337 clinical studies involving over 3,000 hypercholesterolemic non-cardiac patients. It is among the most thoroughly evaluated drugs ever presented to physicians.

Practical, too, is the one-tablet-a-day dosage regimen. It encourages patient cooperation, and it's economical for long-term therapy.

CHOLOXIN (sodium dextrothyroxine) lowers cholesterol 15% to 35%, and keeps it down with most patients. *(Data on file, Flint Laboratories).*

Interested in receiving more information about lipid lowering? Write us or contact your Flint representative. We'll be glad to supply you with a complete product portfolio and samples for your evaluation.

NOTE: See following page for full prescribing information.

AN IMPORTANT NOTE:
It has not been established whether the drug-induced lowering of serum cholesterol or lipid levels has a detrimental, beneficial, or no effect on the morbidity or mortality due to atherosclerosis or coronary heart disease. Several years will be required before current investigations will yield an answer to this question.

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Deerfield, Illinois 60015

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Four strengths 1, 2, 4, and 6 mg are available making the scored tablet regimen a flexible dosage system. And, for most patients, CHOLOXIN tablets offer once-a-day dosage.

CHOLOXIN® (sodium dextrothyroxine) Single-Tablet-A-Day Dosage Schedules

See prescribing information in package insert reproduced below.

	Starting Dosage	Increased Monthly by	Usual Maintenance	Maximal Recommended
Adult Hypercholesterolemic	1.0-2.0 mg.	1.0-2.0 mg.	4.0-8.0 mg.	4.0-8.0 mg.
Pediatric Hypercholesterolemic	0.05 mg./kg. body weight	0.05 mg./kg.	0.1 mg./kg. body weight	4.0 mg.
Hypothyroid Cardiac	1.0 mg.	1.0 mg.	4.0 mg.	4.0 mg.

Choloxin®
(Sodium Dextrothyroxine)

Description

CHOLOXIN (sodium dextrothyroxine) is the sodium salt of the dextrorotatory isomer of thyroxine. It is chemically described as O-3,5,3′,5′-tetraiodothyronine sodium salt.

Actions

The predominant effect of CHOLOXIN (sodium dextrothyroxine) is the reduction of serum cholesterol levels in hyperlipidemic patients. Beta lipoprotein and triglyceride fractions may also be reduced from previously elevated levels.

Most of the available evidence indicates that CHOLOXIN (sodium dextrothyroxine) stimulates the liver to increase catabolism and excretion of cholesterol and its degradation products via the biliary route into the feces. Cholesterol synthesis is not inhibited and abnormal metabolic end-products do not accumulate in the blood.

Indications

This is not an innocuous drug. Strict attention should be paid to the indications and contraindications.

CHOLOXIN (sodium dextrothyroxine) is an antilipidemic agent used as an adjunct to diet and other measures for the reduction of elevated serum cholesterol (low density lipoproteins) in euthyroid patients with no known evidence of organic heart disease.

The drug is also indicated in the treatment of hypothyroidism in patients with cardiac disease who cannot tolerate other types of thyroid medication.

Before prescribing, note the following: Results from a randomized clinical study have indicated a possible adverse effect when CHOLOXIN (sodium dextrothyroxine) is administered to a patient receiving a digitalis preparation. There may be an additive effect. This additive effect may possibly stimulate the myocardium excessively, in patients with significant myocardial impairment. CHOLOXIN (sodium dextrothyroxine) dosage should not exceed 4 mg per day when the patient is receiving a digitalis preparation concomitantly. Careful monitoring of the total effect of both drugs is important.

It has not been established whether the drug-induced lowering of serum cholesterol or lipid levels has a detrimental, beneficial, or no effect on the morbidity or mortality due to atherosclerosis or coronary heart disease. Several years will be required before current investigations will yield an answer to this question.

Contraindications

The administration of CHOLOXIN (sodium dextrothyroxine) to euthyroid patients with one or more of the following conditions is contraindicated:

1. Known organic heart disease, including angina pectoris; history of myocardial infarction; cardiac arrhythmia or tachycardia, either active or in patients with demonstrated propensity for arrhythmias; rheumatic heart disease; history of congestive heart failure; and decompensated or borderline compensated cardiac status.
2. Hypertensive states (other than mild, labile systolic hypertension).
3. Advanced liver or kidney disease.
4. Pregnancy.
5. Nursing mothers.
6. History of iodism.

Warnings

CHOLOXIN (sodium dextrothyroxine) may potentiate the effects of anticoagulants on prothrombin time. Reductions of anticoagulant dosage by as much as 30% have been required in some patients. Consequently, the dosage of anticoagulants should be reduced by one-third upon initiation of CHOLOXIN therapy and the dosage subsequently readjusted on the basis of prothrombin time. The prothrombin time of patients receiving anticoagulant therapy concomitantly with CHOLOXIN therapy should be observed as frequently as necessary, but at least weekly, during the first few weeks of treatment.

In the surgical patient, it is wise to consider withdrawal of the drug two weeks prior to surgery if the use of anticoagulants during surgery is contemplated.

When CHOLOXIN (sodium dextrothyroxine) is used as thyroid replacement therapy in hypothyroid patients with concomitant coronary artery disease (especially those with a history of angina pectoris or myocardial infarction) or other cardiac disease, treatment should be initiated with care. Special consideration of the dosage schedule of CHOLOXIN (sodium dextrothyroxine) is required. This drug may increase the oxygen requirements of the myocardium, especially at high dosage levels. Treated subjects with coronary artery disease must be seen at frequent intervals. If aggravation of angina or increased myocardial ischemia, cardiac failure, or clinically significant arrhythmia develops during the treatment of hypothyroid patients, the dosage should be reduced or the drug discontinued.

Special consideration must be given to the dosage of other thyroid medications used concomitantly with CHOLOXIN (sodium dextrothyroxine). As with all thyroactive drugs, hypothyroid patients are more sensitive to a given dose of CHOLOXIN (sodium dextrothyroxine) than euthyroid patients.

Epinephrine injection in patients with coronary artery disease may precipitate an episode of coronary insufficiency. This condition may be enhanced in patients receiving thyroid analogues. These phenomena should be kept in mind when catecholamine injections are required in sodium dextrothyroxine-treated patients with coronary artery disease.

Since the possibility of precipitating cardiac arrhythmias during surgery may be greater in patients treated with thyroid hormones, it may be wise to discontinue CHOLOXIN (sodium dextrothyroxine) in euthyroid patients at least two weeks prior to an elective operation. During emergency surgery in euthyroid patients, and in surgery in hypothyroid patients in whom it may not be advisable or possible to withdraw therapy, the patients should be carefully observed.

There are reports that sodium dextrothyroxine in diabetic patients is capable of increasing blood sugar levels with a resultant increase in requirements of insulin or oral hypoglycemic agents. Special attention should be paid to parameters necessary for good control of the diabetic state in dextrothyroxine-treated subjects and to dosage requirements of insulin or other antidiabetic drugs. If sodium dextrothyroxine is later withdrawn from patients who had required an increase of insulin (or oral hypoglycemic agents) dosage during its administration, the dosage of antidiabetic drugs should be reduced and adjusted to maintain good control of the diabetic state.

When either or both impaired liver or kidney function are present, the advantages of CHOLOXIN (sodium dextrothyroxine) therapy must be weighed against the possibility of deleterious results.

Usage in Women of Childbearing Age

Women of childbearing age with familial hypercholesterolemia or hyperlipemia should not be deprived of the use of this drug; it can be given to those patients exercising strict birth control procedures. Since pregnancy may occur despite the use of birth control procedures, administration of CHOLOXIN (sodium dextrothyroxine) to women of this age group should be undertaken only after weighing the possible risk to the fetus against the possible benefits to the mother. Teratogenic studies in two animal species have resulted in no abnormalities in the offspring.

Precautions

It is expected that patients on dextrothyroxine therapy will show greatly increased serum protein-bound-iodine levels. These increased serum PBI values are evidence of absorption and transport of the drug, and should NOT be interpreted as evidence of hypermetabolism; similarly, they may not be used for titrating the effective dose of CHOLOXIN (sodium dextrothyroxine). PBI values in the range of 10 to 25 mcg% in treated patients are common.

If signs or symptoms of iodism develop during CHOLOXIN (sodium dextrothyroxine) therapy, the drug should be discontinued.

A few children with familial hypercholesterolemia have been treated with CHOLOXIN for periods of one year or longer with no adverse effects on growth. However, it is recommended that the drug be continued in patients in this age group only if a significant serum cholesterol-lowering effect is observed.

Adverse Reactions

The side effects attributed to dextrothyroxine therapy are, for the most part, due to increased metabolism, and may be minimized by following the recommended dosage schedule. Adverse effects are least commonly seen in euthyroid patients with no signs or symptoms of organic heart disease; the incidence of adverse effects is increased in hypothyroid patients, and is highest in those patients with organic heart disease superimposed on the hypothyroid state.

In the absence of known organic heart disease, some cardiac changes may be precipitated during sodium dextrothyroxine therapy. In addition to angina pectoris, arrhythmia consisting of extrasystoles, ectopic beats, or supraventricular tachycardia, ECG evidence of ischemic myocardial changes and increase in heart size have been observed. Myocardial infarctions, both fatal and non-fatal, have occurred, but these are not unexpected in untreated patients in the age groups studied. It is not known whether any of these infarcts were drug related.

Changes in clinical status that may be related to the metabolic action of the drug include the development of insomnia, nervousness, palpitations, tremors, loss of weight, lid lag, sweating, flushing, hyperthermia, hair loss, diuresis, and menstrual irregularities. Gastrointestinal complaints during therapy have included dyspepsia, nausea and vomiting, constipation, diarrhea, and decrease in appetite.

Other side effects reported to be associated with CHOLOXIN (sodium dextrothyroxine) therapy include the development of headache, changes in libido (increase or decrease), hoarseness, tinnitus, dizziness, peripheral edema, malaise, tiredness, visual disturbances, psychic changes, paresthesia, muscle pain, and various bizarre subjective complaints. Skin rashes, including a few which appeared to be due to iodism, and itching have been attributed to dextrothyroxine by some investigators. Gallstones have been discovered in occasional dextrothyroxine-treated patients and cholestatic jaundice has occurred in one patient, although its relationship to CHOLOXIN therapy was not established.

In several instances, the previously existing conditions of the patient appeared to continue or progress during the administration of CHOLOXIN (sodium dextrothyroxine); a worsening of peripheral vascular disease, sensorium, exophthalmos, and retinopathy have been reported.

CHOLOXIN (sodium dextrothyroxine) potentiates the effects of anticoagulants, such as warfarin or Oicumarol, on prothrombin time, thus indicating a decrease in the dosage requirements of the anticoagulants. On the other hand, dosage requirements of antidiabetic drugs have been reported to be increased during dextrothyroxine therapy (see WARNINGS section).

Dosage and Administration

For **adult** euthyroid hypercholesterolemic patients, the recommended maintenance dose of CHOLOXIN (sodium dextrothyroxine) is 4 to 8 mg per day. The initial daily dose should be 1 to 2 mg to be increased in 1 to 2 mg increments at intervals of not less than one month to a maximum level of 4 to 8 mg daily, if that dosage level is indicated to effect the desired lowering of serum cholesterol.

When used as partial or complete substitution therapy for levothyroxine in hypothyroid patients with cardiac disease who cannot tolerate other types of thyroid medication, the initial daily dose should be 1 mg to be increased in 1 mg increments at intervals of not less than one month to a maximum level of 4 to 8 mg daily, preferably the lower dosage. The maximum in patients receiving digitalis therapy is 4 mg.

For **pediatric** hypercholesterolemic patients, the recommended maintenance dose of CHOLOXIN (sodium dextrothyroxine) is approximately 0.1 mg (100 mcg) per kilogram. The initial daily dosage should be approximately 0.05 mg (50 mcg) per kilogram to be increased in up to 0.05 mg (50 mcg) per kilogram increments at monthly intervals. The recommended maximal dose is 4 mg daily, if that dosage is indicated to effect the desired lowering of serum cholesterol.

If new signs or symptoms of cardiac disease develop during the treatment period, the drug should be withdrawn.

How Supplied

CHOLOXIN (sodium dextrothyroxine) is supplied in prescription packages of scored 1, 2, 4, and 6 mg tablets.

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Big Balanced Rock, Chiricahua Mountains, Arizona (approx. 1,000 tons)

■ **Most Widely Prescribed**—Antivert is the most widely prescribed agent for the management of vertigo* associated with diseases affecting the vestibular system such as Menière's disease, labyrinthitis, and vestibular neuronitis.

■ **Relief of Nausea and Vomiting**—Antivert/25 can relieve the nausea and vomiting often associated with vertigo.*

■ **Dosage for Vertigo***—The usual adult dosage for Antivert/25 is one tablet t.i.d.

BRIEF SUMMARY OF PRESCRIBING INFORMATION

*INDICATIONS. Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:

Effective: Management of nausea and vomiting and dizziness associated with motion sickness.

Possibly Effective: Management of vertigo associated with diseases affecting the vestibular system.

Final classification of the less than effective indications requires further investigation.

CONTRAINDICATIONS. Administration of Antivert (meclizine HCl) during pregnancy or to women who may become pregnant is contraindicated in view of the teratogenic effect of the drug in rats.

The administration of meclizine to pregnant rats during the 12-15 day of gestation has produced cleft palate in the offspring. Limited studies using doses of over 100 mg./kg./day in rabbits and 10 mg./kg./day in pigs and monkeys did not show cleft palate. Congeners of meclizine have caused cleft palate in species other than the rat.

Meclizine HCl is contraindicated in individuals who have shown a previous hypersensitivity to it.

WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Usage in Children: Clinical studies establishing safety and effectiveness in children have not been done; therefore, usage is not recommended in the pediatric age group.

Usage in Pregnancy. See "Contraindications."

ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

More detailed professional information available on request.

ROERIG Pfizer
A division of Pfizer Pharmaceuticals
New York, New York 10017

Antivert®/25
(meclizine HCl) 25 mg. Tablets
for vertigo*

TRIAMTERENE CONSERVES POTASSIUM WHILE HYDROCHLOROTHIAZIDE LOWERS BLOOD PRESSURE

DYAZIDE®

Each capsule contains 50 mg. of Dyrenium® (triamterene, SK&F Co.) and 25 mg. of hydrochlorothiazide.

MAKES SENSE

Before prescribing, see complete prescribing information in SK&F Co. literature or PDR. A brief summary follows:

* **Warning**
This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

* **Indications:** When the combination represents the dosage determined by titration: Adjunctive therapy in edema associated with congestive heart failure, hepatic cirrhosis, the nephrotic syndrome. Corticosteroid and estrogen-induced edema, idiopathic edema; hypertension, when the potassium sparing action of triamterene is warranted. (See Box Warning.) Routine use of diuretics in healthy pregnant women is inappropriate; they are indicated in pregnancy only when edema is due to pathological causes.

Contraindications: Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spironolactone is used concomitantly, determine serum K^+ frequently; both can cause K^+ retention and elevated serum K^+. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effect may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

Supplied: Bottles of 100 and 1000 capsules; Single Unit Packages of 100 (intended for institutional use only).

FOR LONG-TERM CONTROL OF HYPERTENSION.* SERUM K^+ AND BUN SHOULD BE CHECKED PERIODICALLY. (SEE WARNINGS SECTION.)

SK&F CO., Carolina, P.R. 00630

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THE Journal OF THE Kansas Medical Society

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NOVEMBER
1977

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And for good reasons. Diet alone doesn't always work. CHOLOXIN® (sodium dextrothyroxine) has proved itself to be an effective cholesterol lowering adjunct to diet in euthyroid, non-cardiac patients. It has undergone ten years of clinical trials and eight years of practice. The clinical trials consisted of 337 clinical studies involving over 3,000 hypercholesterolemic non-cardiac patients. It is among the most thoroughly evaluated drugs ever presented to physicians.

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NOTE: See following page for full prescribing information.

AN IMPORTANT NOTE:
It has not been established whether the drug-induced lowering of serum cholesterol or lipid levels has a detrimental, beneficial, or no effect on the morbidity or mortality due to atherosclerosis or coronary heart disease. Several years will be required before current investigations will yield an answer to this question.

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CHOLOXIN® (sodium dextrothyroxine) Single-Tablet-A-Day Dosage Schedules

See prescribing information in package insert reproduced below.

	Starting Dosage	Increased Monthly by	Usual Maintenance	Maximal Recommended
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Pediatric Hypercholesterolemic	0.05 mg./kg. body weight	0.05 mg./kg.	0.1 mg./kg. body weight	4.0 mg.
Hypothyroid Cardiac	1.0 mg.	1.0 mg.	4.0 mg.	4.0 mg.

Choloxin®
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Description

CHOLOXIN (sodium dextrothyroxine) is the sodium salt of the dextrorotatory isomer of thyroxine. It is chemically described as D-3,5,3′,5′-tetraiodothyronine sodium salt.

Actions

The predominant effect of CHOLOXIN (sodium dextrothyroxine) is the reduction of serum cholesterol levels in hyperlipidemic patients. Beta lipoprotein and triglyceride fractions may also be reduced from previously elevated levels.

Most of the available evidence indicates that CHOLOXIN (sodium dextrothyroxine) stimulates the liver to increase catabolism and excretion of cholesterol and its degradation products via the biliary route into the feces. Cholesterol synthesis is not inhibited and abnormal metabolic end-products do not accumulate in the blood.

Indications

This is not an innocuous drug. Strict attention should be paid to the indications and contraindications.

CHOLOXIN (sodium dextrothyroxine) is an antilipidemic agent used as an adjunct to diet and other measures for the reduction of elevated serum cholesterol (low density lipoproteins) in euthyroid patients with no known evidence of organic heart disease.

The drug is also indicated in the treatment of hypothyroidism in patients with cardiac disease who cannot tolerate other types of thyroid medication.

Before prescribing, note the following: Results from a randomized clinical study have indicated a possible adverse effect when CHOLOXIN (sodium dextrothyroxine) is administered to a patient receiving a digitalis preparation. There may be an additive effect. This additive effect may possibly stimulate the myocardium excessively, in patients with significant myocardial impairment. CHOLOXIN (sodium dextrothyroxine) dosage should not exceed 4 mg per day when the patient is receiving a digitalis preparation concomitantly. Careful monitoring of the total effect of both drugs is important.

It has not been established whether the drug-induced lowering of serum cholesterol or lipid levels has a detrimental, beneficial, or no effect on the morbidity or mortality due to atherosclerosis or coronary heart disease. Several years will be required before current investigations will yield an answer to this question.

Contraindications

The administration of CHOLOXIN (sodium dextrothyroxine) to euthyroid patients with one or more of the following conditions is contraindicated:

1. Known organic heart disease, including angina pectoris; history of myocardial infarction; cardiac arrhythmia or tachycardia, either active or in patients with demonstrated propensity for arrhythmias; rheumatic heart disease; history of congestive heart failure; and decompensated or borderline compensated cardiac status.
2. Hypertensive states (other than mild, labile systolic hypertension).
3. Advanced liver or kidney disease.
4. Pregnancy.
5. Nursing mothers.
6. History of iodism.

Warnings

CHOLOXIN (sodium dextrothyroxine) may potentiate the effects of anticoagulants on prothrombin time. Reductions of anticoagulant dosage by as much as 30% have been required in some patients. Consequently, the dosage of anticoagulants should be reduced by one-third upon initiation of CHOLOXIN therapy and the dosage subsequently readjusted on the basis of prothrombin time. The prothrombin time of patients receiving anticoagulant therapy concomitantly with CHOLOXIN therapy should be observed as frequently as necessary, but at least weekly, during the first few weeks of treatment.

In the surgical patient, it is wise to consider withdrawal of the drug two weeks prior to surgery if the use of anticoagulants during surgery is contemplated.

When CHOLOXIN (sodium dextrothyroxine) is used as thyroid replacement therapy in hypothyroid patients with concomitant coronary artery disease (especially those with a history of angina pectoris or myocardial infarction) or other cardiac disease, treatment should be initiated with care. Special consideration of the dosage schedule of CHOLOXIN (sodium dextrothyroxine) is required. This drug may increase the oxygen requirements of the myocardium, especially at high dosage levels. Treated subjects with coronary artery disease must be seen at frequent intervals. If aggravation of angina or increased myocardial ischemia, cardiac failure, or clinically significant arrhythmia develops during the treatment of hypothyroid patients, the dosage should be reduced or the drug discontinued.

Special consideration must be given to the dosage of other thyroid medications used concomitantly with CHOLOXIN (sodium dextrothyroxine). As with all thyroactive drugs, hypothyroid patients are more sensitive to a given dose of CHOLOXIN (sodium dextrothyroxine) than euthyroid patients.

Epinephrine injection in patients with coronary artery disease may precipitate an episode of coronary insufficiency. This condition may be enhanced in patients receiving thyroid analogues. These phenomena should be kept in mind when catecholamine injections are required in sodium dextrothyroxine-treated patients with coronary artery disease.

Since the possibility of precipitating cardiac arrhythmias during surgery may be greater in patients treated with thyroid hormones, it may be wise to discontinue CHOLOXIN (sodium dextrothyroxine) in euthyroid patients at least two weeks prior to an elective operation. During emergency surgery in euthyroid patients, and in surgery in hypothyroid patients in whom it may not be advisable or possible to withdraw therapy, the patients should be carefully observed.

There are reports that sodium dextrothyroxine in diabetic patients is capable of increasing blood sugar levels with a resultant increase in requirements of insulin or oral hypoglycemic agents. Special attention should be paid to parameters necessary for good control of the diabetic state in dextrothyroxine-treated subjects and to dosage requirements of insulin or other antidiabetic drugs. If sodium dextrothyroxine is later withdrawn from patients who had required an increase of insulin (or oral hypoglycemic agents) dosage during its administration, the dosage of antidiabetic drugs should be reduced and adjusted to maintain good control of the diabetic state.

When either or both impaired liver or kidney function are present, the advantages of CHOLOXIN (sodium dextrothyroxine) therapy must be weighed against the possibility of deleterious results.

Usage in Women of Childbearing Age

Women of childbearing age with familial hypercholesterolemia or hyperlipemia should not be deprived of the use of this drug; it can be given to those patients exercising strict birth control procedures. Since pregnancy may occur despite the use of birth control procedures, administration of CHOLOXIN (sodium dextrothyroxine) to women of this age group should be undertaken only after weighing the possible risk to the fetus against the possible benefits to the mother. Teratogenic studies in two animal species have resulted in no abnormalities in the offspring.

Precautions

It is expected that patients on dextrothyroxine therapy will show greatly increased serum protein-bound-iodine levels. These increased serum PBI values are evidence of absorption and transport of the drug, and should NOT be interpreted as evidence of hypermetabolism; similarly, they may not be used for titrating the effective dose of CHOLOXIN (sodium dextrothyroxine). PBI values in the range of 10 to 25 mcg% in treated patients are common.

If signs or symptoms of iodism develop during CHOLOXIN (sodium dextrothyroxine) therapy, the drug should be discontinued.

A few children with familial hypercholesterolemia have been treated with CHOLOXIN for periods of one year or longer with no adverse effects on growth. However, it is recommended that the drug be continued in patients in this age group only if a significant serum cholesterol-lowering effect is observed.

Adverse Reactions

The side effects attributed to dextrothyroxine therapy are, for the most part, due to increased metabolism, and may be minimized by following the recommended dosage schedule. Adverse effects are least commonly seen in euthyroid patients with no signs or symptoms of organic heart disease; the incidence of adverse effects is increased in hypothyroid patients, and is highest in those patients with organic heart disease superimposed on the hypothyroid state.

In the absence of known organic heart disease, some cardiac changes may be precipitated during sodium dextrothyroxine therapy. In addition to angina pectoris, arrhythmia consisting of extrasystoles, ectopic beats, or supraventricular tachycardia, ECG evidence of ischemic myocardial changes and increase in heart size have been observed. Myocardial infarctions, both fatal and non-fatal, have occurred, but these are not unexpected in untreated patients in the age groups studied. It is not known whether any of these infarcts were drug related.

Changes in clinical status that may be related to the metabolic action of the drug include the development of insomnia, nervousness, palpitations, tremors, loss of weight, lid lag, sweating, flushing, hyperthermia, hair loss, diuresis, and menstrual irregularities. Gastrointestinal complaints during therapy have included dyspepsia, nausea and vomiting, constipation, diarrhea, and decrease in appetite.

Other side effects reported to be associated with CHOLOXIN (sodium dextrothyroxine) therapy include the development of headache, changes in libido (increase or decrease), hoarseness, tinnitus, dizziness, peripheral edema, malaise, tiredness, visual disturbances, psychic changes, paresthesia, muscle pain, and various bizarre subjective complaints. Skin rashes, including a few which appeared to be due to iodism, and itching have been attributed to dextrothyroxine by some investigators. Gallstones have been discovered in occasional dextrothyroxine-treated patients and cholestatic jaundice has occurred in one patient, although its relationship to CHOLOXIN therapy was not established.

In several instances, the previously existing conditions of the patient appeared to continue or progress during the administration of CHOLOXIN (sodium dextrothyroxine); a worsening of peripheral vascular disease, sensorium, exophthalmos, and retinopathy have been reported.

CHOLOXIN (sodium dextrothyroxine) potentiates the effects of anticoagulants, such as warfarin or Dicumarol, on prothrombin time, thus indicating a decrease in the dosage requirements of the anticoagulants. On the other hand, dosage requirements of antidiabetic drugs have been reported to be increased during dextrothyroxine therapy (see WARNINGS section).

Dosage and Administration

For **adult** euthyroid hypercholesterolemic patients, the recommended maintenance dose of CHOLOXIN (sodium dextrothyroxine) is 4 to 8 mg per day. The initial daily dose should be 1 to 2 mg to be increased in 1 to 2 mg increments at intervals of not less than one month to a maximum level of 4 to 8 mg daily, if that dosage level is indicated to effect the desired lowering of serum cholesterol.

When used as partial or complete substitution therapy for levothyroxine in hypothyroid patients with cardiac disease who cannot tolerate other types of thyroid medication, the initial daily dose should be 1 mg to be increased in 1 mg increments at intervals of not less than one month to a maximum level of 4 to 8 mg daily, preferably the lower dosage. The maximum in patients receiving digitalis therapy is 4 mg.

For **pediatric** hypercholesterolemic patients, the recommended maintenance dose of CHOLOXIN (sodium dextrothyroxine) is approximately 0.1 mg (100 mcg) per kilogram. The initial daily dosage should be approximately 0.05 mg (50 mcg) per kilogram to be increased in up to 0.05 mg (50 mcg) per kilogram increments at monthly intervals. The recommended maximal dose is 4 mg daily, if that dosage is indicated to effect the desired lowering of serum cholesterol.

If new signs or symptoms of cardiac disease develop during the treatment period, the drug should be withdrawn.

How Supplied

CHOLOXIN (sodium dextrothyroxine) is supplied in prescription packages of scored 1, 2, 4, and 6 mg tablets.

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Deerfield, Illinois 60015

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Donnagel with paregoric equivalent

Each 30 cc. contains:

Kaolin	6.0 g.
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Atropine sulfate	0.0194 mg.
Hyoscine hydrobromide	0.0065 mg.
Powdered opium, USP (equivalent to paregoric 6 ml.) (warning: may be habit forming)	24.0 mg.
Sodium benzoate (preservative)	60.0 mg.

Alcohol, 5%

Now with child-proof closure

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Richmond, Virginia 23220

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EXPECTORANT
NASAL DECONGESTANT
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16 FL OZ (1PT.)
THIS PACKAGE INTENDED FOR REPACKAGING BY PHARMACIST
630

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for the difficult cough complicated by nasal congestion

*To help clear the lower respiratory tract—the most recommended single expectorant in the U.S.**

Guaifenesin, NF . . . . . **100 mg**/5 ml

- Enhances output of less viscid secretions to aid in the removal of inspissated mucus.
- Relieves irritated membranes in respiratory passageways by preventing dryness through increased mucus flow.
- Makes dry, unproductive coughs more productive and less frequent.

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Codeine Phosphate, USP . . . . . **10 mg**/5 ml

(Warning: May be habit forming.)

- Reduces severity, frequency and patient awareness of cough.
- Promotes patient comfort.
- Low drug dependence and little risk of side effects in recommended dosage.

For accompanying nasal congestion—

Pseudoephedrine HCl, NF . . . . . **30 mg**/5 ml

- An orally effective nasal/sinus decongestant.
- Relieves congestion, reduces edema, promotes drainage.
- 60 mg pseudoephedrine in a 2-teaspoonful adult dose.

Available in pints only. You prescribe the quantity dispensed.

References:
*National Disease & Therapeutic Index, Jan.-Dec., 1976. IMS America Ltd., Ambler, Pa. 1976.
†Amer. Med. Assn., Dept. of Drugs, A.M.A. Drug Evaluations, 2nd Edition, Publishing Sciences Group, Inc., Acton, Mass., 1973, pp. 482-3.

Robitussin®-DAC—Each 5 ml (1 teaspoonful) contains: Guaifenesin, NF 100 mg; Pseudoephedrine Hydrochloride, NF 30 mg; Codeine Phosphate, USP 10 mg (Warning: May be habit forming) in a palatable, aromatic syrup. Alcohol, 1.4 per cent. INDICATIONS: For the temporary relief of cough and nasal congestion as may occur with the common cold or with inhaled irritants. CONTRAINDICATIONS: Hypersensitivity to any of the ingredients, marked hypertension, hyperthyroidism, or in patients who are receiving MAO inhibitors or antihypertensive medication. WARNINGS: Use this product with caution in children under 2 years or in children taking another drug. Prescribe cautiously for patients with persistent or chronic cough such as comes with smoking, asthma, emphysema, or where cough is accompanied by excessive secretions. Caution should be taken in administering this drug to patients with prostatic hypertrophy or glaucoma. In patients with chronic pulmonary disease or shortness of breath, this product should be administered with caution. As with all products containing sympathomimetic amines, use with caution in patients with high blood pressure, heart disease or diabetes. Do not exceed recommended dosage because at higher doses nervousness, dizziness or sleeplessness may occur. May cause or aggravate constipation. NOTE: Guaifenesin has been shown to produce a color interference with certain clinical laboratory determinations of 5-hydroxyindoleacetic acid (5-HIAA) and vanillylmandelic acid (VMA). ADVERSE REACTIONS: Agitation, dizziness, insomnia, palpitations or nausea may occur. In such instances, reduction in frequency and/or quantity of dose is indicated. RECOMMENDED DOSAGE: Adults—1 or 2 teaspoonfuls every four hours, not to exceed 12 teaspoonfuls in a 24-hour period; children 6 to under 12 years: 1 teaspoonful every four hours, not to exceed 6 teaspoonfuls in a 24-hour period; children under 2 years: use as directed by a physician. ALSO AVAILABLE: Robitussin®; Robitussin-CF®—Robitussin with phenylpropanolamine and dextromethorphan; Robitussin-DM® with codeine; Robitussin with dextromethorphan; Cough Calmers® lozenges (Robitussin-DM in solid form); Robitussin-PE®—Robitussin with pseudoephedrine.

A. H. Robins Co., Richmond, Va. 23220.

FREE OFFER—For a 1978 calendar featuring a poster-size, full-color reproduction of this photo of Southern Railway Engine No. 630, write **"Robitussin-DAC"** on your Rx pad and mail to "Train Offer," A. H. Robins Company, 1407 Sherwood Avenue, Richmond, VA 23220.

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- a predictable pattern of patient response
- seldom associated with serious side effects, in proper dosage
- rarely interferes with mental acuity
- used concomitantly with many primary medications
- three dosage strengths meet most patient needs

LIBRIUM® CIV

chlordiazepoxide HCl/Roche

5mg, 10mg, 25mg capsules

Libritabs® (chlordiazepoxide) available in 5 mg, 10 mg and 25 mg tablets.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Relief of anxiety and tension occurring alone or accompanying various disease states.

Contraindications: Patients with known hypersensitivity to the drug.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported.

***Usage in Pregnancy:* Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

Usual Daily Dosage: Individualize for maximum beneficial effects. *Oral—Adults:* Mild and moderate anxiety and tension, 5 or 10 mg *t.i.d.* or *q.i.d.*; severe states, 20 or 25 mg *t.i.d.* or *q.i.d.* *Geriatric patients:* 5 mg *b.i.d.* to *q.i.d.* (See Precautions.)

Supplied: Librium® (chlordiazepoxide HCl) *Capsules*, 5 mg, 10 mg and 25 mg—bottles of 100 and 500; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10; Prescription Paks of 50, available singly and in trays of 10. Libritabs® (chlordiazepoxide) *Tablets*, 5 mg, 10 mg and 25 mg—bottles of 100 and 500. With respect to clinical activity, capsules and tablets are indistinguishable.

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Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

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Each tablet contains 130 mg theophylline, 24 mg ephedrine hydrochloride, and 8 mg phenobarbital

Each tablet contains 180 mg anhydrous theophylline (90 mg in the immediate release layer and 90 mg in the sustained release layer); 48 mg ephedrine hydrochloride (16 mg in the immediate release layer and 32 mg in the sustained release layer), and 25 mg phenobarbital in the immediate release layer.

SUSTAINED ACTION

Each 5 ml teaspoonful contains 32.5 mg theophylline, 6 mg ephedrine HCl, and 2 mg phenobarbital; the alcohol content is 15%.

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Tedral SA: each tablet contains 180 mg anhydrous theophylline (90 mg in the immediate release layer and 90 mg in the sustained release layer); 48 mg ephedrine hydrochloride (16 mg in the immediate release layer and 32 mg in the sustained release layer); 25 mg phenobarbital in the immediate release layer.

Tedral Elixir: each 5 ml teaspoonful contains 32.5 mg theophylline, 6 mg ephedrine hydrochloride, and 2 mg phenobarbital; the alcohol content is 15%.

Indications. Tedral, Tedral SA, and Tedral Elixir are indicated for the symptomatic relief of bronchial asthma, asthmatic bronchitis, and other bronchospastic disorders. They may also be used prophylactically to abort or minimize asthmatic attacks and are of value in managing occasional, seasonal or perennial asthma.

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Tedral Elixir: Note: One teaspoonful is equivalent to *one-quarter* Tedral tablet. *Children*—One teaspoonful per 30 lb body weight, every 4-6 hours, unless prescribed otherwise by physician. Should be given to children under 2 years of age only with extreme caution. *Adults*—One to two tablespoonfuls every four hours.

Supplied. Tedral: White, uncoated scored tablets in bottles of 24 (N 0047-0230-24), 100 (N 0047-0230-51) and 1000 (N 0047-0230-60). Also in Unit Dose—package of 10 x 10 strips (N 0047-0230-11).

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Auxiliary News

"Why should doctors belong to the AMA? What does the AMA do for me?" To these questions often asked by physicians in the United States, James Sammons, M.D., Executive Vice President of the American Medical Association, gave the following response at the AMA Auxiliary Fall Confluence in Chicago last month:

1. There are 400 separate and ongoing programs and 40 master programs supported by the AMA;

2. All doctors educated in the United States graduate from AMA-approved medical schools and residencies. Without constant evaluation, the quality of medical education would decline;

3. Thirty-one states have continuing education requirements for licensure. AMA keeps the records and accredits the courses;

4. Periodicals and correspondence consisting of approximately 5,000 letters, weekly *AMA Journal, AMA News,* and many specialty journals are free to the physicians, but cost AMA $13 million annually;

5. The AMA Committee on Legislation reviews the 2,000 bills concerned with health that are introduced in Congress annually. Members of the Committee and AMA officers and trustees testify before congressional committees to prevent passage of poor legislation and to encourage passage of good health laws. AMA maintains five lobbyists in Washington to listen to Congress and the Administration, and to express the position of organized medicine on the issues.

One of the current principal concerns of the United States Chamber of Commerce is the cost of health care. Dr. Sammons stated that physicians receive 17-18 per cent of the health care dollar, but they make the final judgments and are the purchasing agents in all areas of care. He says that in order to decrease health care costs, the physicians must insist that insurance companies allow them to treat the patient standing up instead of lying down.

For the first time in the history of American medicine, more than 50 per cent of physicians are under age 40, and the profession will be theirs in ten years.

I overheard one physician describe those who were not members as some young, disenchanted, uninformed, misinformed, tired and retired. Perhaps Auxiliary membership could be similarly classified. If physicians choose not to belong to their professional organizations, their spouses are not likely, and in some cases are unable, to join the local auxiliary.

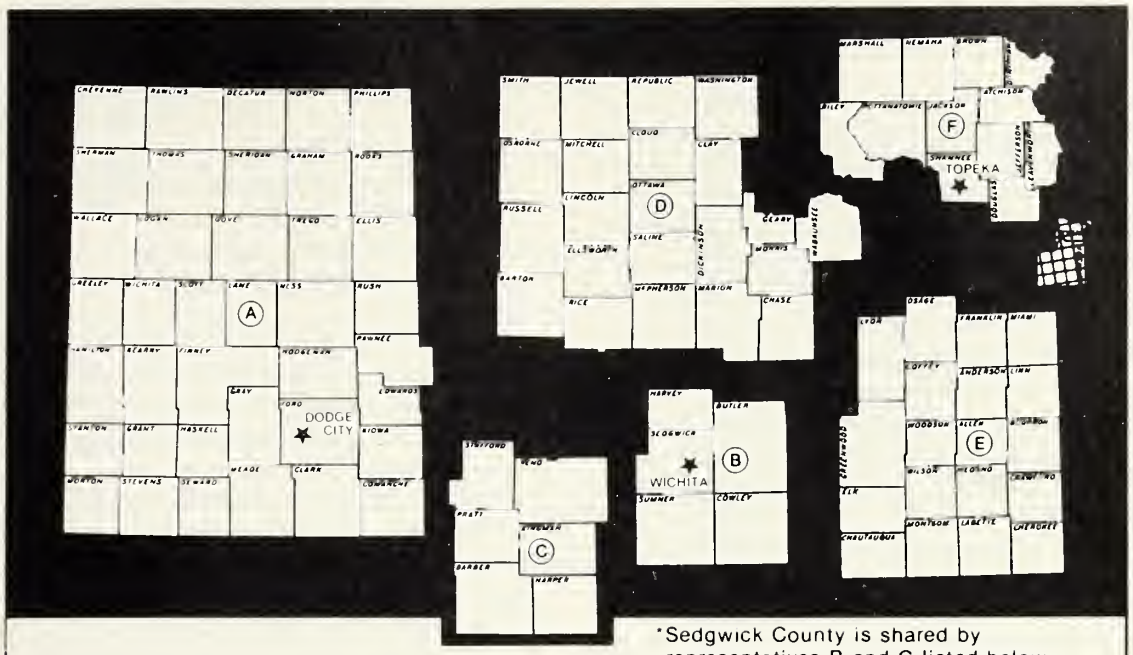
It seems imperative that the profession join together in a single body to promote the goals and ideals that have guided it to this point in history. Fragmentation based on individualism can only serve to destroy its progress and effectiveness. In the halls of government, numbers count for strength and only the strong survive. For the AMA to represent only two-thirds of the physicians in this country is a handicap to those who speak for physicians in the congressional hearings.

It is the goal of the Auxiliary this year to increase its own membership and commitment. We can do more together.

Sincerely,
Jackie Burnett
President
Kansas Medical Society Auxiliary

Journal on Microfilm

Microfilmed copies of current as well as all back issues of the JOURNAL are available through University Microfilm Services, a subsidiary of Xerox Corporation. The 35 mm film fits all standard viewers and provides the JOURNAL in miniature at a savings on binding and storage costs. Write for information or send orders direct to University Microfilm Services, 300 North Zeeb Road, Ann Arbor, Michigan 48106.



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HUMANITIES SEMINARS FOR MEDICAL PRACTITIONERS

The National Endowment for the Humanities, a federal agency, will continue its program of humanities seminars for medical practitioners in 1978. The seminars —which meet during the summer at selected colleges and universities—will bring physicians and other health professionals together for a month of full-time study under the direction of distinguished philosophers, historians, and others. The seminars are designed to give participants the opportunity to stand back from their work and explore the humanistic dimensions of their profession by studying such topics as the history of professional ethics in American medicine, moral dilemmas in medical practice, and the relationship between individual and public rights in health care. A second series of seminars open to the members of various professions, including health practitioners, will deal with the ethical dimension in contemporary life, value conflict in our society, the cultural foundations of U.S.-Asian foreign relations, individualism in American society, and contemporary religious movements.

From 12 to 15 persons will attend each seminar tuition-free, receiving a stipend of up to $1,200 to cover expenses, plus reimbursement for travel. Physicians, nurses, public health officials, hospital administrators, and other health professionals may apply. The application deadline is tentatively set for April 17, 1978. Further information about the seminars, application forms, and selection criteria may be obtained from: Professions Program, Division of Fellowships, National Endowment for the Humanities, Washington, D. C. 20506.

OXYGEN TECHNIQUE FAILS

Elderly Americans, hoping to regain lost mental powers, have paid hundreds of thousands of dollars since the early 1970s for an exotic treatment that takes them into special high-pressure chambers to breathe pure oxygen.

Evidence from a study supported by the National Institute of Mental Health (NIMH) of HEW's Alcohol, Drug Abuse, and Mental Health Administration now suggests that most of them have been wasting their money.

Investigators at NIMH and the New York University Medical Center failed to verify claims that pure oxygen, administered under high pressure, could restore mental functioning in cognitively impaired elderly persons. The study, led by Dr. Allen Raskin of NIMH, is the first to use adequately sized comparison groups to evaluate the effectiveness of "hyperbaric oxygenation."

The condition the oxygen technique was devised to treat, known as "chronic organic brain syndrome" (OBS), afflicts at least 1.5 million elderly Americans. OBS is characterized by forgetfulnes, disorientation, impaired intellectual functioning and judgment, and shallow, easily changeable moods. Often, its victims develop psychiatric symptoms such as depression, or their behavior toward family and friends changes dramatically.

Results of the research by Raskin and his colleagues will be published in a forthcoming issue of the *Archives of General Psychiatry*.

Among questions answered by the new study are the following:

—Severity of illness makes no difference in the effectiveness of the treatment. Less ill subjects did no better than the severely ill;

—Men and women responded equally poorly to the oxygen treatment.

The researchers also concluded that subjects with cerebrovascular disease were not helped by the treatment, although the theory underlying the treatment would suggest that they should be. Raskin and his coinvestigators warn, however, that their methods were insufficient to make a completely adequate test of this possibility.

"The results," they say, "are nevertheless convincing in highlighting the limitations of hyperbaric and normobaric oxygen as treatment for cognitive deficits in the elderly."

Besides Raskin, the researchers included Dr. Samuel Gershon, Thomas H. Crook, Dr. Gregory Sathananthan, and Dr. Steven Ferris. Raskin and Crook are in the NIMH Psychopharmacology Research Branch; Gershon, Sathananthan, and Ferris are at the New York University Medical Center.

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THE JOURNAL

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But the individual character of Valium is even more apparent clinically than pharmacokinetically. And far more significant. That's because of the patient response obtained with Valium. A response which brings a calmer frame of mind. A response which has a pronounced effect on the somatic symptoms of anxiety, particularly muscular tension. A response which helps the patient feel more like himself again because of the way Valium reduces the overwhelming symptoms of anxiety and psychic tension.

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Unquestionably, many psychotherapeutic agents, including other benzodiazepines, have antianxiety effects. But one fact remains: you get a certain kind of patient response with Valium. It's a response you want. A response you know. A response you trust as part of your overall management of anxiety and psychic tension.

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Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

Usage in Pregnancy: **Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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SOCIAL SECURITY REMEDIES

Steps to remedy the financial problems of the Social Security pension system are suggested by Jerome W. Van Gorkom in *Social Security: The Long-Term Deficit,* a December AEI study. Van Gorkom is president of the Trans Union Corporation and served as a member of the Quadrennial Advisory Council on Social Security and chairman of the subcommittee on finance.

"The system does face a real financial problem but not of the catastrophic nature so often ascribed to it," Van Gorkom writes. He estimates that for the immediate 25 years, the deficit will average less than .85 per cent for the employee and an equal amount for the employer. "An increase to cover this deficit should not be enacted immediately but should be accomplished in two or three relatively small steps. In this way, the economic impact will be minimized, and the actual movements of prices, wages, and fertility rates may be observed before further increases are made," Van Gorkom says. If the tax rate cannot be raised in the near future, he writes, then the automatic benefit formula will have to be revised to keep benefit increases in line with tax revenues.

The volume explains the method of computing benefits in layman's terms, and examines the factors that have created the long-term deficit forecasted for the plan.

The major causes of the long-term deficit in the social security system are the altered relationship between increases in prices and increases in wages, changes in the fertility rate, and a basic flaw in the benefit formula, the author explains. The cost of the social security system is very sensitive to the relationship between price and wage increases, Van Gorkom notes. Unless wages increase faster or the forecasted rise in prices is less than the estimates of the trustees, there will be serious upward pressures on the cost of the social security system. Downward changes in the fertility rate also pose a threat to future tax revenues. "The fertility rate will have to start moving well above the projected rate within the next fifteen years and remain at a relatively high level for three decades, in order to allow a reduction in the high taxes that will otherwise be needed," the author says.

Van Gorkom also examines a feature of the benefit computation under the social security law that can cause benefit replacement ratios to fluctuate up and down. There is little opposition to legislation that would correct this flaw, the author says. After eliminating the flaw, Van Gorkom says, there still will be a deficit of about 4 per cent over the next 75 years. This could be handled by a tax increase, starting with a small increase of perhaps 1 per cent or less split equally between employee and employer.

NEW GRAFFITI ON SCHOOL YARDS

New graffiti have begun appearing on the pavements of school playgrounds across the country. But it's a bit different from the usual.

Doctors' wives from coast to coast are painting specially designed hopscotch courts which are intended to alert children to the need for immunization. The spaces on the hopscotch layout are labeled with the names of the controllable diseases, measles, rubella, polio, tetanus, diphtheria, whooping cough, and in place of "Sky Blue," "Immunization" has been substituted.

The stencil-painting is an out-growth of an AMA public service TV campaign which uses as a theme children playing hopscotch. In addition to public service announcements, the campaign includes a filmed puppet show featuring mock-sinister characters, each representing a different disease. The characters are introduced at the "AMA Immunization Bowl" where they have gathered to play a game of hopscotch. The game is described by an "announcer."

Mrs. Chester Young, Kansas City, Kansas, President of the AMA Auxiliary, whose members are doing the painting, said: "This generation of young parents grew up free of the fear of epidemics of polio and of other childhood diseases, like measles, because *their* parents knew the ravages of the diseases. So young people just haven't been getting their children immunized the way they should. The idea of our campaign is to break through their apathy and remind young parents of their responsibility to protect their children against disease."

Mrs. Young points out that 40 per cent of all American children under 15—20,000,000—are not properly immunized. "We could see another polio epidemic unless the level of immunization is raised. And to some one who remembers the dread of polio, that's appalling."

The campaign is directed at children and, through them their parents. Auxiliary members are organized in 1,500 counties in the United States and stencils have been provided to each chapter by the AMA. The women will concentrate on grammar schools.

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CME credit available. All workshops will be in Topeka, Kansas.

For further information please contact June Housholder, Division of Continuing Education, The Menninger Foundation, P.O. Box 829, Topeka, Kansas 66601. 913/234-9566, ext. 3685.

Month in Washington

At the request of President Carter, the HEW Department is developing recommendations for a national health insurance (NHI) proposal to be introduced into the Congress early next year.

In order to obtain a wide range of views on NHI, Secretary Califano has asked each of the HEW regional offices to solicit the views and recommendations of concerned citizens in their area.

The AMA via state medical societies has encouraged selected physicians to attend some 100 scheduled meetings across the country in order to present the viewpoints of the medical profession.

Eight months after publication of a botched list of physicians receiving substantial Medicare payments in 1975, the government has published a new list reworked from top to bottom. After a protest last spring from the AMA over the high error rate, HEW Secretary Califano apologized and promised release of a corrected list.

Last March, responding to requests from the news media, HEW printed the names and amounts received of 409 physicians and 1,750 groups that did more than $100,000 of Medicare business in 1975. The Freedom of Information Law compelled this disclosure, HEW said.

The AMA checked the original list and found, in a sizable sample, an error rate of more than 60 per cent.

HEW officials have announced that next time they will list all physicians who received any Medicare payments at all in 1976. Estimated costs to the government of preparing this annual listing is from $700,000 to $1 million at the start and some $300,000 annually afterward. No estimates have been made of how much added cost would fall on the carriers who have prime responsibility for gathering such data.

"Operation Common Sense" to make readable the 6,000 pages of HEW Department regulations has been launched by HEW Secretary Califano.

Along the way some provisions will be eliminated in the "top-to-bottom" overhaul that will take years, Califano said.

"Long complicated regulations, often taking years to issue, have too long been the hallmark of the federal government in general and this department in particular," Califano said. "The President has vigorously declared his desire to see shorter, clearer regulations issued in timely fashion. I am determined that this department lead the federal government in the direction charted by the President."

Forty-five pages of material were issued to the press to explain Operation Common Sense. In reply to a question about this from a reporter, Califano said with a smile that sometimes clarity isn't served by brevity.

The government has proposed regulations to strengthen the Medicaid child health screening program (EPSDT).

The regulations set forth by the Health Care Financing Administration (HCFA) clarify and update existing provisions dealing with penalties for states that fail to comply and method used in carrying out the screening of children. One purpose is to give states greater flexibility in administering the plan.

HCFA said "states have a responsibility to provide scheduling assistance, transportation, and follow-up services to eligibles in order to remove significant obstacles that program experience clearly indicates eligibles generally have in obtaining EPSDT services."

The regulation adds immunization to the screening package rather than as an item to be determined for treatment later.

Named Special Assistant for National Health Insurance at the HEW Department is James Mongan, M.D., a top staff member of the Senate Finance Subcommittee on Health.

Dr. Mongan was selected by HEW for the new post where the physician will report to Secretary Califano and to Assistant Secretary for Health, Julius Richmond, M.D. In announcing the selection, Califano said, "I am confident that NHI will emerge as the premier domestic accomplishment of the Carter Administration."

Dr. Mongan, formerly of San Francisco, was a Public Health Service physician before joining the Finance Committee staff seven years ago.

Anti-Fraud Law

President Carter has signed into law stiff penalties for providers who are found guilty of fraud in the Medicare and Medicaid programs. The new law levies felony penalties to a maximum $25,000 fine and five years in prison replacing the misdemeanor penalties of up to a $10,000 fine and one year in prison.

The bill passed overwhelmingly by Congress and sent to the White House is aimed at providers and

retains misdemeanor penalties for recipients convicted of defrauding the programs. It was the first major health bill of the Administration to become law.

Providers found guilty of fraud and abuse will be treated as felons and punished by up to five years in jail and/or a fine up to $25,000. Previous law considered such violations as misdemeanors rather than felonies.

Illegal "kickbacks" among providers are defined and institutions are compelled to submit ownership data to the government. One of the main targets of the bill was so-called "Medicaid mills" and kickbacks uncovered in several large cities.

The disclosure requirements do not apply to individual physicians or to groups of physicians.

States must form anti-fraud units separate from their health departments in order to qualify for Medicaid funding.

Other provisions:

States can supersede PSRO activities covering Medicaid if they demonstrate to the federal government that PSROs are making decisions that "have a detrimental effect" on state Medicaid spending;

The Health, Education and Welfare Department was given the authority to select regional or national intermediaries if it concludes that existing intermediaries within a state are doing a poor job;

Most Medicaid reimbursement would have to be made within 30 days by the states.

An amendment giving HEW power to initiate suits was dropped from the measure by House-Senate conferees, but Rep. Paul Rogers (D-Fla.) said Attorney General Griffin Bell had informed him that the FBI was training 350 agents to audit Medicare and Medicaid records. Rogers is Chairman of the House Commerce Subcommittee on Health.

Sen. Herman Talmadge (D-Ga.), Chairman of the Senate Finance Subcommittee on Health, said the bill is a "clear, loud warning to thieves and crooks that will be heard in unmistakable tones."

Meanwhile, HEW Secretary Joseph Califano told a television panel show that taxpayers are losing at least $1 billion a year through payments to ineligible people. Califano denied reports HEW is abandoning "project integrity," declaring that 2,500 cases of provider fraud are being investigated on a state-by-state basis for possible prosecution.

Hospital Cost Containment

Final Congressional hearings on the Administration's stumbling Hospital Cost Containment program have been conducted by the Senate Finance Committee and all indications are that no legislation will be enacted this year.

Subcommittee Chairman Herman Talmadge (D-Ga.) has said his information from the House side was that representatives are not "overly optimistic" the House will move before the end of the current session.

In an opening statement, Talmadge said he feared the Administration's proposed 9 per cent cap on all hospital revenues could harm efficient hospitals. "Irreparable harm" could befall the hospital system, the Senator said. "While there are many obese hospitals, there are many lean ones," he said. "I don't want to put all hospitals on a 1,200-calories-a-day diet."

Talmadge said his staff has drawn up a set of recommendations for an approach melding some of the Administration's ideas with Talmadge's own long-standing proposal for a thorough overhaul of Medicare and Medicaid hinging on prospective reimbursement for hospitals to encourage efficiency.

The importance attached to the issue by the Administration was evident from a letter sent by President Carter to Talmadge and House health subcommittee chairmen Reps. Dan Rostenkowski (D-Ill.) and Paul Rogers (D-Fla.), declaring that "one of my most important priorities is to secure strong legislation to restrain the skyrocketing increase in health care costs." Carter said, "I wish to reaffirm my strong personal commitment to the Administration's Hospital Cost Containment legislation."

The first witness before Talmadge was HEW Secretary Joseph Califano, who charged that if Congress delays passage another four months "there will be an additional inflation of $2.8 billion in hospital costs."

Continuing his assault on hospitals, Califano said many institutions "are wallowing in ice cream, candy, and cake."

"Our citizens simply cannot afford this mindless, inexorable spiraling of health expenditures that impoverish other needed health care programs and send the costs of medical care out of sight," said the HEW Secretary.

The American Medical Association told the subcommittee that a cap is "manifestly unfair" and would discourage hospitals from improving services. Robert B. Hunter, MD, Chairman of the AMA Board of Trustees, said the more admissions a hospital has "the more likely it is to be penalized."

"Artificial limitations, irrespective of how generous or how restrictive, are unrealistic," said Dr. Hunter.

The bill includes medical equipment in physicians' offices under capital expenditure limitations when the cost is above $150,000. This provision "is both unjustified and unsupportable," said the AMA witness. "Such a limitation would prove onerous, especially for physicians first opening practices as well as for those desiring to modernize offices in order to assure continued quality patient care."

The subcommittee was urged to keep in mind "that full access to quality care for those individuals needing

health care services requires appropriate resources." Dr. Hunter said "arbitrarily limiting resources—both physical and financial—affects not only access, but also quality." He suggested any cost containment plan be started as a local experiment to determine its workability.

John McMahon, President of the American Hospital Association, told the subcommittee that the Administration bill "would seriously jeopardize the present and future ability of hospitals to provide quality care to the American people."

Applying a uniform cap on all hospitals "would exert the heaviest pressures where they are least appropriate—on the most efficient hospitals," said McMahon. These facilities would be forced to curtail essential services, according to McMahon.

Hospitals purchase and use many services and goods that rise faster in cost than the rest of the market, McMahon testified. Of the 15 per cent rise in hospital costs last year, 10 per cent was purely the result of inflation and 5 per cent "resulted from increased intensity and improvement in patient care."

Sen. Richard Schweiker (R-Pa.) urged consideration of his measure that promotes state programs to control costs. "With a little encouragement and assistance from the federal government, the states can achieve greater actual savings in a far more equitable manner than a uniform system administered from Washington, D. C.," he said.

Unnecessary Surgery

The Congressional investigation of whether there is too much surgery has boiled down to a question of whose study to believe and whose interpretation is correct. Rep. John Moss (D-Calif.), Chairman of the House Commerce Subcommittee on Oversight, insists there is far too much surgery despite protests from many physicians and evidence from studies that his contentions are overblown.

Moss attacked the conclusions of a study headed by Ralph Emerson, MD, President of the New York State Medical Society, that less than 1 per cent of major operations are being performed with less than usually accepted indications.

Moss and his subcommittee have been relying on another study that 17 per cent of surgery is not required, extrapolating that there are 2.4 million unnecessary operations yearly and 11,900 deaths from these procedures.

The Emerson study, underway since the late 1960s, used preset criteria for monitoring quality of surgical care, criteria prepared by four state medical schools, the state department of health, and the state medical society. In addition to finding less than 1 per cent of major operations questionable, the study found 2 or 3 per cent of minor surgery in this category.

Karl Pfuetze, MD, a cardiologist from Kansas City and an expert on surgical statistics, testified that the so-called McCarthy study was employed erroneously by the subcommittee. The finding of a 17-per cent difference of opinion on whether surgery should be performed stems only from the fact that there will be a range of from 10 to 20 per cent of differing opinion for much elective surgery, said Dr. Pfuetze.

He said that if every surgeon sought the opinion of ten other surgeons on each case, there would often be one or two or three dissenters. But the majority judgment in such cases would be accepted. However, seeking these consultations separately for each case would result in a difference of opinion ranging from 10 to 30 per cent.

Said the witness:

"Previous alarming calculations of so-called unnecessary surgery have been based on estimates, misunderstandings of the mathematical implications of experimental design, a lack of understanding about what really produces a difference of opinion between physicians. The result of these factors has produced a 700-1700 per cent overestimate of so-called unnecessary surgery and a 3700 per cent overestimate of unnecessary deaths."

C. Rollins Hanlon, MD, Director of the American College of Surgeons, said "The College recognizes the need to consider the complexity and cost of surgical procedures as well as the need for broad knowledge of surgical biology, diagnostic skill and operative skill to make the patient safe for the operation, and the operation safe for the patient."

Dr. Hanlon also told the Subcommittee:

"These needs dictate our continued insistence on long and exacting education for surgeons, rather than casual, on-the-job training, as inappropriate to modern surgery as the competence of the occasional weekend pilot to take over the controls of a 747. Scrupulously careful delineation of privileges based on education, peer appraisal of skills, and certification of specific competence will remain the most reliable basis for appropriately recommended and safely performed operations by genuine surgeons, rather than casual operators."

No AMA Testimony

The AMA has informed Sen. Edward Kennedy (D-Mass.) that it could not testify at hearings on competition in the health care field because the issues coincide with those posed at trial now in progress before the Federal Trade Commission.

The hearing was called off by Kennedy. Among other witnesses slated to testify that day was Michael Pertschuk, FTC Commissioner. Kennedy planned to go ahead later with such hearings before an unusual joint session of two subcommittees he heads—Senate Human Resources Sub-

committee on Health and the Senate Judiciary Subcommittee on Antitrust and Monopoly.

Kennedy had no comment on the AMA's refusal to testify.

In a letter to the Senator, the AMA said questions by Kennedy in a letter to the AMA and the issues to be addressed "are essentially the same as the issues now on trial before an Administrative Law Judge for the Federal Trade Commission.

"For this reason," wrote AMA Executive Vice President James H. Sammons, MD, "the Association has been advised by legal counsel not to appear to present testimony . . ." When an issue is involved in litigation, testimony on the same subject before Congress could jeopardize the legal position of the witness.

Dr. Sammons said that the AMA's stand on the primary issue of regulation and competition can be provided for the record. The Association has long advocated "a pluralistic system of health care with free competition among all practitioners whether practicing alone, in groups or as salaried or contracting physicians in HMOs" (Health Maintenance Organizations), said the AMA.

Kennedy also was informed that the AMA "strongly advocates" consumer information including standard fees charged by physicians. "The Association remains opposed to self-laudatory statements or claims such as testimonials and non-verifiable statements or claims."

The chief issue before the FTC is the AMA's code against unethical advertising by physicians.

Dr. Sammons said government regulation of the supply of physicians and their distribution by specialty "would have an unpredictable and detrimental impact upon the future quality of care."

The AMA letter continued:

"The issue of quality of care and cost of care are not separate and unrelated and are not independent from the issue of availability of services. These three elements of medical care are somewhat like a tripod in that alteration of one will cause an imbalance or instability of the other two. Too frequently, congressional approaches to cost problems result in reduction of available technology, benefits, and access to quality care."

A tug-of-war situation has developed within the federal government with some agencies promulgating ever more stringent regulation of the medical profession while other agencies demand removal of any professional self-regulation and relaxation of government regulation, Dr. Sammons declared.

The House has gone along with the Senate and approved an 18-month postponement of the proposed Food and Drug Administration ban on use of saccharin. The vote was 375 to 23. Differences in labeling requirements will have to be resolved before the bill is sent to the White House.

The Senate wants saccharin products to carry a label cautioning that the sweetener causes cancer in animals and may increase people's risk. The House bill only requires a notice at the store where the product is sold.

Rep. Andrew Maguire (D-N.J.), during floor debate, suggested sarcastically there should be an "assurance label" that reads:

"Saccharin does not cause cancer in the opinion of your Congressman despite scientific evidence that it does."

On the other side, Rep. Samuel Devine (R-Ohio) told the House, "not long ago we had a scare about cranberries. Then it was cyclamates, and just this weekend someone said my vegetables might cause cancer. My God, are we going to ban vegetables because they might cause cancer?"

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Scientific ARTICLES

Phenothiazine Cardiomyopathy

Electrolyte Alterations in Serum and Cardiac Tissue of Rabbits With Acute Thorazine Intoxication

RAMON A. GUILLAN, M.D.; CHIH-PING YANG, M.D.; SHERMAN S. WILSON, M.S. *and* **E. VIRGINIA HOCKER,** *Topeka*

SUDDEN DEATH of patients receiving high doses of phenothiazine and phenothiazine cardiomyopathy has been the subject of many reports and review articles without establishing a clear mechanism for identifying the cause of the sudden death. It has been increasingly suggested that cardiac arrhythmias may be responsible for the deaths of the phenothiazine-treated patients.[1-5] Samples of myocardial tissue obtained from three recent cases were subjected to electron microscopic study and showed severe mitochondrial swelling with diffuse clumping of cristae into osmiophilic masses. Increased electron-dense material was present within the mitochondria.[6]

Below are presented the results of a study which was an attempt to reproduce in rabbits the electron microscopic observations found in the hearts of patients who died suddenly while under phenothiazine therapy. The electrocardiographic as well as the electron microscopic studies performed in rabbits were similar to those previously described in humans.[7]

Based on our findings of severe mitochondrial and myofiber degeneration in the ultrastructure of the heart, we screened 44 patients receiving high doses of phenothiazine for anti-mitochondrial, anti-nuclear, anti-smooth muscle, anti-heart, and skeletal muscle antibodies. Average age of the patients was 36 years and all but four were under 40 years. All the patients studied were on a regimen of phenothiazine base drug (mostly Thorazine), receiving a daily dose ranging from 300 mg to 4,000 mg, with a daily mean dose of 957 mg. The average medication period was 18 months.

Results of research with rabbits attempting to establish a cause for previously unexplained sudden death of patients receiving high dosages of phenothiazine base drug are presented.

Multiple antibody screening of the 44 patients tested revealed that 48 per cent showed the presence of circulating antibodies; 43 per cent showed electrocardiographic abnormalities, of whom 84 per cent had circulating antibodies. Of special interest was the fact that in four of our patients, most of the electrocardiographic abnormalities reverted back to normal and the circulating antibodies either disappeared or showed reduced reactivity a month after discontinuation of the drug.[8]

Based on our experience with patients and experimental animals, we suggested that the immediate cause of death in these patients was cardiac arrhythmia brought about by direct action of the phenothiazine drugs upon the ultrastructure of the myocardium.

Address reprint requests to Dr. Guillan, Chief, Laboratory Service, V.A. Hospital, 2200 Gage Blvd., Topeka, KS 66622.

Since alterations of sodium and potassium concentration in skeletal muscles have been reported in heart disease, and there is some indication that sodium and potassium concentration in the heart muscle itself might be affected, it was decided to measure these cations in the heart muscle of rabbits receiving Thorazine. Potassium is the chief intracellular cation, and its concentration is generally decreased when there is myocardial ischemic injury.[9] On the other hand, sodium and chloride are increased while potassium and calcium are decreased in the necrotic heart.[10]

To ascertain what happens to the electrolyte shifts occurring between myocardial cells and the serum of rabbits receiving Thorazine, studies were made of electrolyte levels occurring in myocardial tissue and the serum. Although other cations, anions and tissue water levels were studied, this report is limited to the levels of sodium, potassium, and calcium.

Tissue can be analyzed as a whole, but unfortunately—with the exception of blood—it cannot be separated for direct analysis into its individual phases. Muscle cells (*i.e.*, the intracellular phase of the tissue) contain a high concentration of potassium and phosphate, little if any sodium, and no chloride. The remainder (the extracellular phase) approximates a serum ultrafiltrate in composition and contains all of the chloride and most of the sodium.[11] In the traditional view of the cell, ions and proteins are in dilute, aqueous solutions, and the ionic gradients between the cell and its environment are maintained by the cell membrane. The chemical activities of the ions inside and outside the cell are considered to be equal and near unity.[12] An attempt is made to detect any significant changes due to the treatment by analyzing tissue as a whole in a control and a treatment group and comparing the differences.

The purpose of the project was to determine what happened to the cardiac tissue electrolytes, serum electrolytes, and cardiac ultrastructure of the rabbits when they were subjected to acute phenothiazine intoxication.

Materials and Methods

The animals used were male and female, New Zealand white-cc rabbits, with an initial weight of 3,000 gm. They were fed Purina rabbit pellets and water ad libitum, and were housed in galvanized wire mesh cases in air conditioned quarters. The two groups were assigned randomly, the control group consisting of 12 males and 12 females, and the experimental group consisting of 17 males and 18 females. Control animals were given intraperitoneal injections of distilled water in the same amounts and at the same time as the phenothiazine drug was given to the experimental group. Experimental animals received Thorazine 50 mg/kg body weight intraperitoneally each morning for five days. They were killed eight hours after the last dose.

Preparation

The animals were killed by a sharp blow to the head. The thoracic cavity was immediately opened through an incision in the left fourth intercostal space. The blood was drawn by cardiac puncture directly into a vacutainer tube. After clotting, the tubes were centrifuged for 15 minutes at 2,000 rpm and the subsequent analyses were carried out on the serum. The heart was excised and sections were obtained for light and electron microscopic examination.

For electron microscopy, tissue was placed for 15 minutes in a solution of 4 per cent glutaraldehyde in 0.1M phosphate buffer at pH 7.2; then for 1-2 hours in 1 per cent osmium tetraoxide. After fixation, the material was dehydrated in alcohol solutions of increasing concentrations and embedded in equal parts of prophylene oxide and resin mixture Epon 812. Sections were examined with a Hitachi HS-8 electron microscope. Tissue was prepared in the usual manner for light microscopic examination.

The remainder of the heart tissue was trimmed of fat, minced, and placed in a preweighed 50-ml Falcon, plastic, screw-capped, conical, graduated centrifuge tube (2070) (Division of Becton Dickinson). The tubes containing tissue were dried to constant weight in an oven at 110C.

Lipid Extraction

Lipid extraction was accomplished by gently shaking the dried tissue in the screw-capped tubes for 30 minutes with anhydrous diethyl ether 10 ml. The ether extract was decanted into properly labeled tubes and saved. The extraction was repeated with petroleum ether 10 ml, and the extract was combined with ether extract. The tubes containing the tissue residue were brought to constant weight. The solvent saved from the lipid extraction was returned to the tubes containing tissue residue, and then evaporated to dryness under an infrared heat lamp.

Demineralization

Demineralization of the tissue was accomplished by adding 0.75 N HNO_3 10 ml to each tube.[10] The tubes were capped tightly and placed on a mechanical shaker overnight. The caps were removed, small glass funnels with fused stems were placed into the tubes, and the tubes were heated in boiling water for one hour. The tubes were next centrifuged, and the supernatant was

decanted into vacutainer tubes using filter apparatus (Unichem Filter Sampler, manufactured by Unichem, Fairburn, Georgia).

Analytical Methods

The following analyses were made on the filtrate: (1) sodium (Na), potassium (K), and chlorine (Cl) were determined directly on serum by the automated technique (Technicon Procedure File);[13] (2) calcium (Ca) was determined in the serum and the extract by Standard Automated Autoanalyzer Methodology;[14] and (3) Na and K were determined directly in the extracts by the usual method of flame spectrophotometry (using IL Flame). Cl was determined directly in an aliquot of the extract using the chloride titrator.

Results

The major electrolytes studied in our experiment showed significant shifts both in the cardiac tissue and in the serum. The magnitude of the shifts were shown in *Table I*. The serum values are given in mEq/L; tissue values in mEq/100 gm fat free-dry weight for Na, K and Cl, and mg/100 gm fat free-dry weight for Ca. Significance is evaluated by the student t-test ($P < 0.01$ compared with the controls).

Comparison revealed that the concentrations of calcium, potassium, and chloride decreased and the concentration of sodium increased in the cardiac tissue of the experimental group. Serum analysis showed decreased concentrations of sodium, calcium and chloride, and an increased concentration of potassium in the experimental group. Specific details are given in *Table I*.

Discussion

In 1883, Ringer observed that the heart muscle would contract only if calcium was present in the medium.[15] Heilbrunn and coworkers[15] demonstrated the ability of calcium to directly stimulate cardiac contraction. Since then, many reports and reviews have appeared in the literature investigating the role of calcium metabolism in heart activation and contraction on the action potential, and in the excitation-contraction coupling.[16]

Suko, Vogel and Chidsey,[17] in their report, concluded that there is a defect in calcium transport in microsomes and a functional abnormality of the sarcoplasmic reticulum in the intact myocardial cell in heart failure which could contribute to the alteration of the excitation-contraction coupling mechanism. Ito and Chid-

TABLE I

A Comparison of the Electrolyte Alterations in Control and Experimental Rabbit Serum and Cardiac Tissue

Source	Serum								Cardiac Tissue							
Group	Controls				Experimentals				Control				Experimentals			
Variable	Na	K	Ca	Cl	Na	K	Ca	Cl	Na	K	Ca	Cl	Na	K	Ca	Cl
Unit of Concentration	mEq/L	mEq/L	mg/dl	mEq/L	mEq/L	mEq/L	mg/dl	mEq/L	mEq/100gm	mEq/100gm	mg/100gm	mEq/100gm	mEq/100gm	mEq/100gm	mg/100gm	mEq/100gm
N	24	24	23	23	32	32	32	32	25	25	25	25	35	35	35	35
Mean	147.5	6.4	14.4	104.2	139.2	8.3	11.9	99.8	23.2	33.4	61.2	18.5	28.7	23.2	31.4	15.0
SD	4.80	0.68	1.10	3.37	4.00	1.24	0.91	5.40	3.40	3.90	7.62	2.90	2.25	2.48	4.39	2.50
SE	0.99	0.14	0.23	0.90	0.71	0.22	0.16	0.96	0.68	0.76	1.52	0.58	0.38	0.42	0.74	2.11
df					54	54	53	53					58	58	58	58
t values					7.0	-6.6	9.2	3.5					-7.6	12.3	19.1	1.4
P <					0.01	0.01	0.01	0.01					0.01	0.01	0.01	0.01

N - Number of items in a sample
SD - Standard deviation
SE - Standard error of the mean
df - Degree of freedom
p - Level of significance

sey[18] measured the myocardial calcium and its distribution in intracellular fraction in rabbits with chronic heart failure induced by experimental aortic insufficiency, and suggested that in chronic heart failure in the rabbit heart there was a change in intracellular calcium metabolism. They found greater amounts of calcium accumulated in the mitochondria instead of sacroplasmic reticulum, which could reduce the immediate availability of calcium for cardiac contraction. In 1965, Peachey[19] found that granular inclusions similar to those found in the terminal cisternae of skeletal muscle were present in the sarcoplasmic reticulum and T-system. These granules proved to be calcium. Lee[20] postulated that the site for release of activator calcium in the mammalian myocardium was the sarcoplasmic reticulum. Langer,[21] and Legato, Spiro and Langer,[22] postulated that mitochondria could be the second storage site of intracellular calcium. The role of calcium is to bind to troponin and thus remove the troponin inhibition of the actinomycin interaction which troponin provides in the resting state. The troponin-dependent inhibition of the interaction of actin and myocin is specifically removed by calcium on an equimolar basis.[23] Since there are about 70 U moles/kg/heart troponin, 70 U moles/kg/heart calcium would be required to fully activate the actinomycin of the myocardium.[23] Weber *et al.*[24] were unable to demonstrate the troponin-inhibition action, but the authors pointed out that the calcium proved to be the trigger initiating muscle contraction.

The sodium ion has been recognized for its role in the electrical process of action potential; the spike of the action potential depends upon the development of a rapid inward current carried by the sodium ion. Upon completion of action potential, the intracellular sodium must be "pumped out" before the next excitation if a steady state of Na is to be maintained. Sodium is moved by the so-called sodium pump from inside to outside the cell against both a concentration and an electrical potential gradient. In a variety of disease states, the cells of the body take up Na+. This increased intracellular Na+ may be related to deficiency in cell metabolism with consequent impairment of the Na+ pumping mechanism.[25] Langer[26] in his editorial mentioned "Na-pump lag," and Woodbury[27] explained that its possible mechanism may be due to the control or inhibition of membrane Na-K activated ATPase activity. This activity was believed proportionate to pump activity.

Our finding of decreased calcium and potassium, and increased sodium in tissue homogenate of the experimental rabbits—as compared to the control group—is highly significant, especially in view of our previous findings of marked sarcoplasmic reticulum and mitochondrial and myofiber degeneration. Since both storage sites for cell calcium (sarcoplasmic reticulum and mitochondria) were damaged, the capacity for uptake and storage was impaired. Rabbits 162 and 199 were of particular interest. In rabbit 162, the calcium decreased to 27 mg/100 gm, with EKG revealing ventricular fibrillation and cardiac arrest *(Figures 1-4)*. In rabbit 199, the calcium decreased to 24 mg/100 gm, and EKG revealed the pattern of acute myocardial injury.

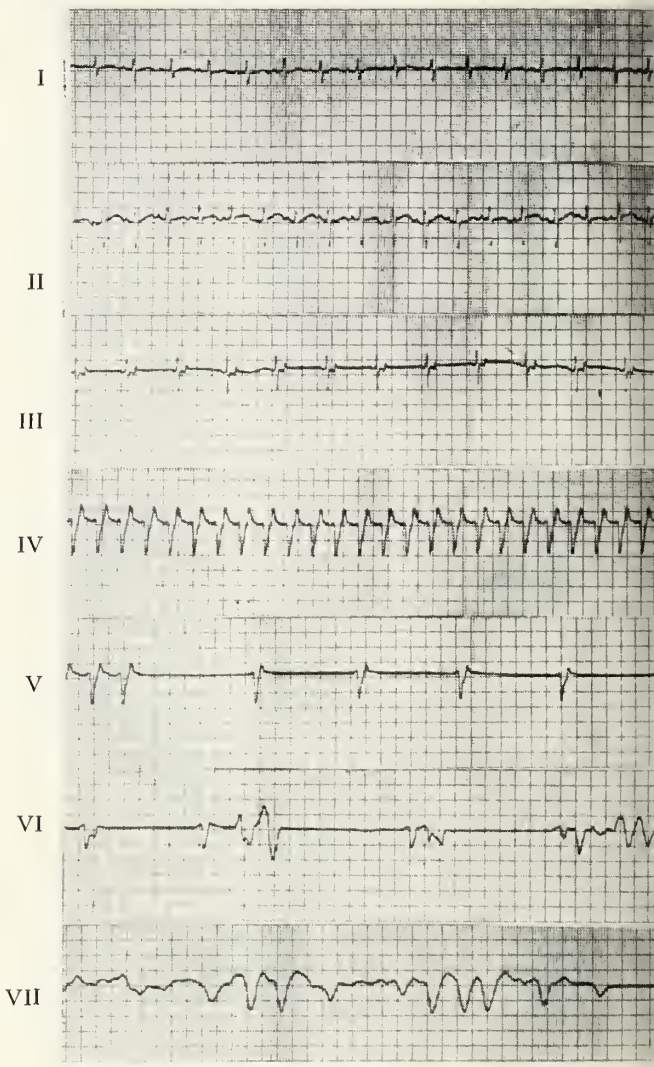

Figure 1. EKG of Rabbit 162, Thorazine 50 mg/kg bod weight, daily intraperitoneal cavity beginning 5/10/7 I: Pre-treatment EKG (5/10/76); II: After 4 days o treatment (5/14/76); III: 5th day of treatment (5/15/7 8:00 AM) biphasic T wave change developed; IV throug VII: Continuous tracing: (5/15/76, 8:20 AM). Supraven tricular tachycardia developed, followed by atrioventricula nodal rhythm, ventricular irritability, and ventricula fibrillation.

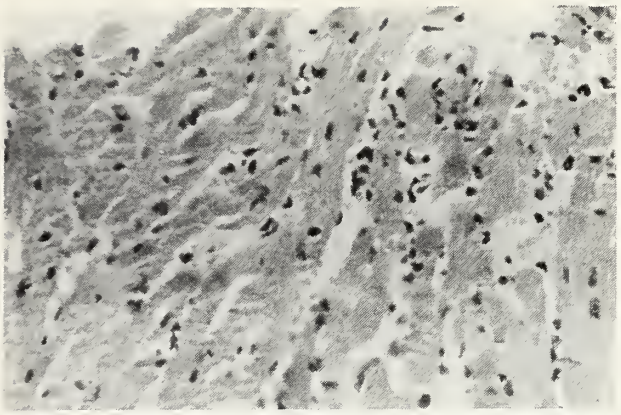

Figure 2. Rabbit 162. Heart showing intra- and extracellular edema with loss of cross striations (Hematoxylin and eosin × 400).

Due to the diffuse myocardial cell degeneration, the activity of Na-K activated ATPase and ATP energy production was impaired. The sodium pump was, therefore, impaired with resultant increase of the intracellular Na and impairment of K-Na exchange. The damage to the sarcoplasm and mitochondria resulted in dysfunction of the calcium uptake and storage, which in turn jeopardized the cardiac contraction. The derangement in the shift of potassium, sodium, and calcium thus produced the cardiac arrhythmia and cardiac failure.

The changes in the intracellular chloride in the experimental group were the reverse of what is usually seen in myocardial cell injury.[10] No explanation for this finding can be given at this time.

Figure 3. Rabbit 162. Heart showing severe damage to myofibers, mitochondria, sarcolemma, and T-system. Intracellular edema is also seen. Z = z bands; T = T-system; Sar. = Sarcolemma; Gly. = Glycogen; Mito. = Mitochondria. Magnification × 25,000.

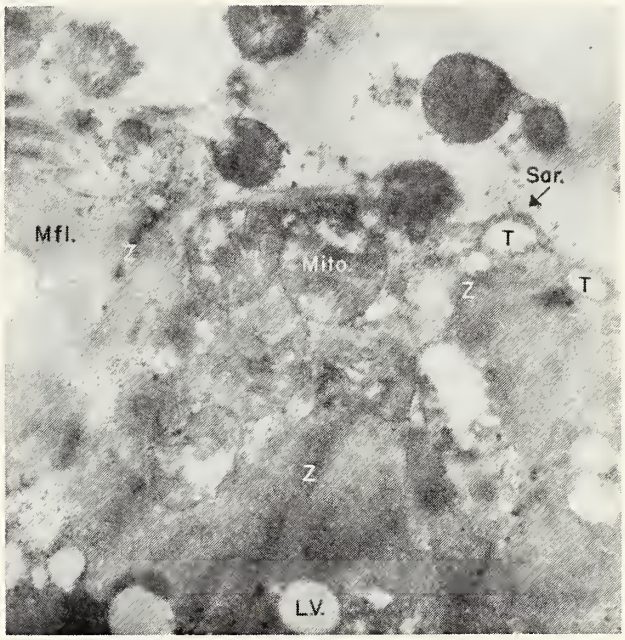

Figure 4. Rabbit 162. Shows disruption of myofibers, mitochondria, and T-system. Increase in lipid vacuoles is seen. L.V. = Lipid Vacuoles. Magnification × 20,000.

Summary

In an attempt to further clarify the physiopathology behind phenothiazine cardiomyopathy, the electrolyte shift occurring between myocardial cells and the serum of rabbits receiving Thorazine was determined. Our finding of *decreased* calcium and potassium, and *increased* sodium in tissue homogenate of the experimental rabbits as compared to the control group was highly significant, especially in view of our previous findings of marked sarcoplasmic reticulum, and mitochondrial and myofiber degeneration.

The diffuse myocardial cell degeneration initiated a chain reaction which ultimately produced a cardiac arrhythmia and cardiac arrest.

Acknowledgment

R. L. Smalley, Ph.D., Professor of Biochemistry, Kansas State Teachers College, Emporia, assisted in the interpretation of the electron microscopic findings.

References

1. Alexander, C. S. and Nino, A.: Cardiovascular complications in young patients taking psychotropic drugs. A preliminary report. *Am. Heart J.* 78:757-769, 1969.

2. Johnson, F. P. *et al.:* Sudden death of a catatonic patient receiving phenothiazine. *Am. J. Psych.* 121:504-507, 1964.

(Continued on page 487)

Duplicated Common Duct

Surgical Removal of Stones

PHILIP J. ANTRIM, M.D., *Anthony*

A HIGHER INCIDENCE of both chronic and acute biliary tract disease has been shown in patients with congenital aberrations of the biliary tree.[1] Double ductus, or double drainage, is a rare anomaly with only 20 cases having been reported.[2-6] Many other anomalies of the ductal system and vasculature in this area have been reported,[3-9] indicating lowered operative morbidity when the surgeon can skillfully avoid injury to the ducts and blood vessels that do not follow the usual pattern. Flint[7] wrote in 1924: "Technically gallbladder surgery is much the most difficult of any abdominal surgery, and inadequate appreciation of the abnormalities of this region does not lessen the risks." Although not the most difficult abdominal operation today, gallbladder surgery can occasionally be complicated by anomalous anatomy.

Anatomic variations of the biliary ductal system are well known and documented today. This report is primarily concerned with a method of choledocholithotomy in a case of duplication of the common bile duct.

Case Report

The patient was an 82-year-old white female, who had twice been admitted to the hospital, December 1973 and August 1974, with a diagnosis of acute cholecystitis, cholelithiasis, and pancreatitis. She had experienced increasing difficulty with epigastric pain, anorexia, nausea and vomiting, especially after eating fatty foods, and she had lost a few pounds of weight.

Examination of the patient prior to surgery showed benign rectal polyps with ulceration, a right vertical breast scar of a partial mastectomy, fullness of the left epigastrium, and loss of weight. An electrocardiogram showed auricular fibrillation with a slow ventricular response rate, varying from 31 to 70 beats/min. Poor septal forces suggested an old antero-septal infarction. Pre-surgical examination, including chest x-rays, intravenous pyelogram and barium enema, revealed severe osteoarthritis of the dorsal spine, and diverticula in the hepatic and splenic flexures and in the descending colon.

Address reprint requests to Dr. Antrim, 1101 E. Spring, Anthony, KS 67003.

An unusual method of stone removal in a rare case of anomalous double ductus choledochus is described.

Operation

Exploration through a right paramedian, upper abdominal incision revealed normal uterus, ovaries, tubes, colon, kidneys, pancreas, appendix, hiatus area, spleen, and liver. The gallbladder was thickened and contained stones *(Figure 1, A)*. The ductus choledochus was impacted with stones. Duplication of the duct had not been previously discovered and was therefore unexpected.

The angle of Calot was exposed and the enlarged cystic duct was encircled and divided between clamps. The cystic duct was tightly adherent and seemed to be sealed to the side of the common duct. Vessels were traversing the duct. A choledochostomy *(Figure 1, B)* exposed the juncture of the cystic duct with the common duct. The bile appeared normal, and 18 small to moderately sized, faceted stones were taken out of the anterior common duct and its right and left hepatic ducts *(Figure 1, C)*.

The Sphincter of Oddi was sounded and dilated with a #5 gallduct sound, without meeting any stones. Successful passage through the sphincter was felt with the examining hand as the sound slipped through the sphincter and back with a definite slight snapping feel. Operative cholangiograms were taken at four intervals with a T-tube in place. Each x-ray showed stones, which were then located and removed. Additional stones were felt but were not visible. An incision was made in the posterior aspect of the open common duct and into the second ductal structure *(Figure 1, D)*; a number of stones from the posterior duct were milked up through the fistula and removed *(Figure 1, E,e)*. A final antero-posterior operative cholangiogram revealed no additional stones. The duct of Wirsung appeared normal. During closure, the fistulous tract created between the double common ducts was left open. Only the anterior duct was sutured, with chromic 3-0, with the T-tube in place *(Figure 1, F)*.

The adherent cystic duct was split laterally and posteriorly, and this portion of the cystic duct was removed. The remaining cystic duct epithelium was cauterized and the edges were sutured to the side of the ductus choledochus. The gallbladder was removed utilizing standard procedure. Blood loss was 200 cc. The appendix was not removed. Pathological report on the tissue showed acute and chronic cholecystitis and combination-type stones. A lymph node near the cystic duct showed benign reactive change.

Postoperatively, the patient did well the first day, and then seemed to become mentally confused. Her heart continued to fibrillate but returned to a normal rate the next day. On the third postoperative day, the patient was very confused, exhibited slight delirium and agitation, and she pulled out her Levin tube. She appeared dehydrated on the fourth day but had a urinary output of 2500 cc, indicating previous fluid retention. The serum sodium at that time was 138 mEq/l; potassium, 4.4 mEq/l; chlorides, 101.2 mg/100 ml. The patient was improved mentally and the wound was satisfactory on the following day, but she had developed anorexia and nausea.

Figure 1. A. Graphic representation of composite x-ray and surgical findings at operation before choledocholithotomy. Also, the small left intraheptic ductal stone is shown (found postoperatively). B. Position of the choledocholithotomy. C. Removal of anterior ductal stones. D. Incision through posterior wall of anterior ductus choledochus and into the posterior ductus choledochus. E. and e. Removing stones found in the posterior ductus choledochus. F. T-tube in place in the anterior ductus.

On the 11th day, the patient's serum sodium was 136 mEq/l; potassium, 5 mEq/l; chlorides, 100.6 mg/100 ml; calcium, 4.5 mEq/l. The patient experienced a stormy course, with agitation, refusal of food, regression to her childhood, and inability to name her daughters who were present. Proteus infection in the bladder was found and treated.

Also on that day, the patient's white blood cell count was at its peak: WBC, 15,600/cu mm, with 84% Segs and 16% lymphocytes; hematocrit reading, 38%. WBC and hemoglobin were observed under treatment; the last WBC was 9,400/cu mm and hemoglobin, 11.8 gm/100 ml.

Injections of Haldol .375 mg were occasionally increased to 2 mg when the patient became acutely agitated. One gram of keflin every six hours, decreasing to every eight hours, was used in the initial phase with later utilization of Keflex. Crystodigin was administered thoughout the pre- and postoperative periods. After discharge, the patient continued to improve during a recuperative period of about two weeks, and had gained weight when she came for a check-up and discussion of her progress.

Discussion

After several operative cholangiograms were taken, the biliary system was reported to be free of stones. However, cholangiograms taken on the 14th postoperative day disclosed one remaining faceted stone high in the left lobe radicle of the posterior duct. Clear definition of the stone, and of the double duct, was obtained only by lateral x-ray in the postoperative period when her condition permitted.

Unusual and untried methods were employed to deal with the unexpected anomalous ductal structure. In this reported choledocholithiasis, fistulization between the two common ducts was successfully developed to allow for stone removal and for proper T-tube drainage of both anterior and posterior common ducts *(Figure 1, A-F)*.

While a stone left behind in choledocholithiasis is not desirable, such an occurrence is understandable in a case of anomalous structures. The problem would possibly have been recognized had a lateral supine x-ray been taken in the operating room. Should re-operation become necessary, the surgeon would encounter difficulty, but he would be armed with knowledge of the existence of the anomalous duplicated common duct.

(Continued on page 485)

Hodgkin's Disease

Combination Chemotherapy in Resistant Hodgkin's Disease

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THE TREATMENT of advanced Hodgkin's disease (HD) has improved dramatically with the introduction of the four-drug combination of nitrogen mustard, oncovin, procarbazine, and prednisone (MOPP). Thus, 70 per cent of the patients with disseminated Hodgkin's disease, treated with MOPP, have achieved complete remission and one-third of these patients have remained disease-free indefinitely, suggesting possible cure.[2, 3] However, the management of relapsing HD is rendered increasingly more difficult by the emergence of drug-resistance and its unresponsiveness to conventional chemotherapy. Recently, the discovery of various active agents against HD has allowed the design of new combinations that are useful in MOPP failure, or as alternates to MOPP therapy.[4] Of the various new tools, B-DOAP (bleomycin, dacarbazine, oncovin, adriamycin, prednisone) combination chemotherapy has emerged as the most promising.[5] This paper briefly discusses our experience with this combination and a variant thereof, DOAP, in the treatment of HD resistant to the conventional chemotherapy.

Material and Methods

Eight patients with histologically proven HD were included in the study. In addition to prior radiotherapy, all patients *(Table I)* had been exposed to various chemotherapeutic agents, singly or in combination, and had become unresponsive to conventional therapy. All had disseminated disease and were symptomatic from the HD.

The treatment schedule is shown in *Figure 1*. The regimen of DOAP (B-DOAP without the bleomycin) was used in patients who were previously exposed to bleomycin. In the absence of significant myelosuppression, the treatment was repeated at 3-4 week intervals until the maximum doses for bleomycin and adriamycin were reached. For the patients with compromised bone marrow, the doses of dacarbazine and adriamycin were reduced by 25 to 50 per cent.

Pre-study evaluation included: (1) complete history and physical examination; (2) blood count; (3) liver and renal function tests; (4) EKG; (5) chest x-ray; (6) basal pulmonary function test; (7) gallium scan; and, in some patients, lymphangiogram. Evaluation during therapy included complete blood and platelet count, and assessment of the various parameters of disease activity.

Combination therapy of bleomycin, dacarbazine, oncovin, adriamycin, and prednisone in the treatment of Hodgkin's disease is discussed.

Complete response (CR) was defined as a complete disappearance of symptoms and all tumor masses. Partial response (PR) was defined as 50 per cent reduction of the sum of all measurable lesions without the emergence of new lesions. Duration of response is the time elapsed between the attainment of maximal response to recurrence.

Results

All the patients *(Table II)* received at least three courses of treatment. Of the two patients who achieved complete response, one remains in remission (25+ mos) and is off therapy, while the other relapsed 12 mos later and subsequently died. The four patients who achieved partial response had a striking improvement in their performance status. However, three of these

B-DOAP/DOAP TREATMENT OR THERAPY?	
Bleomycin*	4 mg/m² days 2 and 5 (max. cumulative dose 300 mg)
Dacarbazine	150 mg/m² days 1-5
Oncovin	1.5 mg/m² days 1 and 5 (single dose not to exceed 2 mg)
Prednisone	40 mg/m² days 1-5
Adriamycin	60 mg/m² day 1 (max. total cumulative dose 500 mg/m²)

* Bleomycin deleted in DOAP treatment.

Figure 1

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Presented at the annual meeting of the Kansas Chapter, American College of Physicians, Wichita, KS.

TABLE I
PATIENT DATA

Case	Age (Yrs) at Diagnosis/Sex	Original Stage CS	Original Stage PS	Treatment Prior to B-DOAP/DOAP RT	Treatment Prior to B-DOAP/DOAP CT	Duration of Disease Before B-DOAP/DOAP (Yrs)	Extranodal Site Before B-DOAP/DOAP
1	34/M	II	II_E	Mantle	MOPP; VBL; CCNU; Bleo	1.5	B/Lung
2	16/F	II-B	—	Mantle (modified)	HN_2; Chl; VBL; MOPP; CTX/Pred; CCNU; Bleo	13	B/Lung
3	50/F	III-B	—	Multiple involved areas	HN_2; Chl; CTX; Pred; MOPP	3.5	B/Lung
4	19/F	II-A	—	Multiple involved areas	HN^2; Chl; VBL; CCNU; Bleo; Pred	22	B/Soft tissue
5	22/M	III-B	—	Multiple involved areas	HN_2; Chl; VBL; BCNU; COP	15	B/None
6	23/M	III-B	III_S	TN	MOPP; VBL; CCNU	2.5	B/Liver
7	23/F	II-A	—	Mantle	HN_2; VBL; COP; CCNU; Bleo	7.5	B/Lung
8	43/M	II-B	—	Mantle multiple involved areas	MOPP; VBL; CCNU; Bleo COP	6	B/Lung, liver

CS—Clinical Stage
PS—Pathological Stage
RT—Radiotherapy
CT—Chemotherapy
TN—Total Nodal Radiotherapy

VBL—Velban
Bleo—Bleomycin
HN_2—Nitrogen Mustard
Chl—Chlorambucil

CTX—Cytoxan
Pred—Prednisone
MOPP—(see text)
COP—Cytoxan, Oncovin, Prednisone

B—Fever, night sweats, weight loss; singly or in combination

TABLE II
RESPONSE TO B-DOAP/DOAP

Case	Courses (Total)	Response	Duration of Response
1	10 DOAP	PR	9 mos
2	9 DOAP	CR	25+ mos
3	10 B-DOAP	CR	12 mos
4	6 B-DOAP	PR	6 mos
5	4 B-DOAP	PR	12+ mos
6	5 B-DOAP	PR	14 mos
7	3 DOAP	NR	died within 3 mos
8	3 DOAP	NR	died within 2 mos

patients relapsed 6, 9 and 14 mos later, and subsequently died. The two patients who had severely compromised bone marrow were given reduced doses of dicarbazine and adriamycin, but failed to respond to three courses of therapy and soon died. One patient is still maintained on modified chemotherapy (12+ mos).

The main toxic manifestations are outlined in *Table III*. The major gastrointestinal toxic symptoms were nausea and vomiting, most pronounced during the first two-three days of therapy. Hematological toxic effects were common but generally tolerable. Two patients who had severely compromised bone marrow had transient improvement in the blood count after therapy before they died of their disease. All the other patients had variable leukopenia and thrombocytopenia; the

TABLE III
PATTERN OF MAJOR TOXICITY

Toxicity	*No. of Patients*
Hematological	
WBC < 3,000/μl	3/6*
Platelets < 50,000/μl	2/6*
Gastrointestinal (nausea, vomiting)	8/8—mild to moderate
Neurological	2/8—moderate
Alopecia	8/8

* Pre-treatment counts of two patients were below the specified limit.

peripheral cytopenia was very severe (WBC < 1,000, platelets > 25,000), but reversible in two patients who had extensive prior radiotherapy and chemotherapy. Generally, maximal cytopenia was evident in the second and third week after therapy. It persisted for several weeks in some patients, delaying the administration of the chemotherapy. Alopecia was total and neurological dysfunction was generally minor, and led to the discontinuation of oncovin in one patient. Extravasation of adriamycin with tissue necrosis occurred in one patient. Pain upon the injection of dacarbazine was a common complaint.

Discussion

The results in this study confirm the efficacy of B-DOAP and DOAP combination chemotherapy in the management of advanced Hodgkin's disease resistant to conventional agents. The treatment is generally well tolerated and could be administered on an outpatient basis in most cases.

The main side-effects consisted of gastrointestinal symptoms of nausea and vomiting, which was most evident during the first two-three days of therapy. Variable myelosuppression with leukopenia or thrombocytopenia was common, and alopecia was invariably present. The treatment was hampered at times by the absence of accessible veins that would allow daily injection of decarbazine.

As was exemplified in this series, previous exposure to bleomycin does preclude the use of this agent in the B-DOAP regimen. It may be useful to determine whether the deletion of bleomycin from B-DOAP regimen would affect the outcome significantly in such instances. The wider use of this regimen, extending it to more favorable cases, may establish its place not only in the treatment of MOPP failures but also as an alternate to MOPP therapy.

Summary

Eight patients with resistant Hodgkin's disease were treated with B-DOAP or DOAP. Two patients achieved complete response (CR) lasting 12 and 25+ months; four patients achieved partial responses (PR) of 6, 9, 12+, and 14 months; two patients did not respond and died. This combination chemotherapy appears to be well tolerated and efficacious in resistant Hodgkin's disease.

References

1. DeVita, V. T., Jr.; Serpick, A. and Carbone, P. P.: Combination chemotherapy in the treatment of advanced Hodgkin's disease. *Ann. Intern. Med.* 73:881-895, 1970.
2. Frei, E., III *et al.*: Combination chemotherapy in advanced Hodgkin's disease. *Ann. Intern. Med.* 79:376-382, 1973.
3. Moore, M.; Jones, S.; Bull, J.; William, L. and Rosenberg, S.: MOPP chemotherapy for advanced Hodgkin's disease. *Cancer* 35:52, 1973.
4. Kaplan, H. S. and Rosenberg, S. A.: The management of Hodgkin's disease. *Cancer* 36:796-803, 1975.
5. Lokich, J. J.; Jaffe, N.; Moloney, W. C. and Frei, E.: MOPP resistant Hodgkin's disease: New multiple agent chemo- State University Hospitals, Columbus, Ohio, 1975.

IMMUNIZATIONS OF CHILDREN

In spite of convincing evidence that successful immunization can safely and effectively prevent diphtheria, whooping cough, tetanus, polio, mumps, measles and rubella, "it seems incredible that more than 5 million children in the United States are not protected against these diseases," according to a communication in the *Journal of the American Medical Association.*

The outbreaks occur among groups of persons who have never been immunized and among others in whom immunization failures have occurred. Failures of measles vaccine have occurred when the vaccine was rendered impotent from poor refrigeration or excessive exposure to light or heat.

Twenty per cent of children under 13 years are not adequately immunized against diphtheria, tetanus and whooping cough; 30 per cent of those 1 to 4 years are not adequately protected against polio; about 35 per cent of 1-to-4-year-old children have never been immunized against measles and rubella.

The successful control of disabling, preventable diseases by the appropriate use of safe and effective vaccines requires the cooperation of physicians, public health authorities, parents, and school health authorities. Physicians and public health officials must provide leadership in this effort in order to prevent future epidemics.

Special Series—II

Progress in Soft Tissue Tumors

ANTONIO HUAMAN, M.D.,* *Topeka*

THE DESIGNATION of soft tissue tumors is currently used for the neoplasms of nonepithelial and extraskeletal tissues of the body, either benign or malignant, the latter most widely called sarcomas. Generally excluded from this designation are the neoplasms of the reticuloendothelial system, the glia, and the supporting tissues of specific organs, which truly are soft tissue tumors but are conventionally studied under other chapters of pathology.

The clinical management of malignant soft tissue tumors has been difficult and the prognosis uncertain, because of the problems involved in their classification, their remarkable incidence in the younger population, and the development of metastases. Because of these peculiarities treatment has frequently been incomplete, as indicated by a meager five-year survival rate of 10-20 per cent regardless of the therapeutic procedure. At the present time, however, great strides in the diagnosis, staging, and treatment of these malignancies are being made, including the universal pathologic classification of soft tissue tumors, an improved system for clinical staging, and a multi-specialty approach to their treatment. The prognosis of these tumors has been dramatically changed to a five-year survival rate of 60-80 per cent. It is because of the promising outlook that a review of these conditions is made.

Histological Typing

The pathological diagnosis of the soft tissue tumors has been radically improved by an internationally agreed upon classification accepted and understood by physicians, surgeons, pathologists, and statisticians. It was formulated by a panel of experts of the World Health Organization (WHO) under the title of *Histological Typing of Soft Tissue Tumors:*[1]

I. Tumors and tumor-like lesions of fibrous tissue:
   A. fibromas;
   B. fibromatoses;
   C. dermatofibrosarcomas protuberans;
   D. fibrosarcomas.

II. Tumors and tumor-like lesions and adipose tissue:
   A. benign: lipomas and lipomatoses;
   B. malignant: liposarcomas.

III. Tumors of muscle tissue:
   A. smooth muscle:
      1. benign: leiomyomas,
      2. malignant: leiomyosarcomas;
   B. straited muscle:
      1. benign: rhabdomyomas,
      2. malignant: rhabdomyosarcomas:
         a. embryonal,
         b. alveolar,
         c. pleomorphic,
         d. mixed.

IV. Tumors and tumor-like lesions of blood vessels:
   A. benign: hemangiomas: hemangiopericytomas, glomus tumors, angiomyomas, granulomas pyogenicum;
   B. malignant: hemangioendotheliomas (angiosarcomas), malignant hemangiopericytomas.

V. Tumors and tumor-like lesions of lymph vessels:
   A. benign: lymphangiomas, lymphangiomyomas, systemic lymphangiomatoses;
   B. malignant: lymphangioendotheliomas (lymphangiosarcomas).

VI. Tumors of synovial tissues:
   A. benign: benign synoviomas;
   B. malignant: synovial sarcomas.

VII. Tumors of mesothelial tissue:
   A. benign mesotheliomas;
   B. malignant mesotheliomas.

VIII. Tumors and tumor-like lesions of peripheral nerves:
   A. benign: neuromas, neurofibromas, neurilemmomas, neurofibromatoses;
   B. malignant: malignant schwannomas, peripheral tumors of primitive neuroectoderm.

IX. Tumors of sympathetic ganglia:
   A. benign: ganglioneuromas;
   B. malignant: neuroblastomas, ganglioneuroblastomas.

X. Tumors of paraganglionic structures:
   A. pheochromocytomas: benign and malignant;
   B. chemodectomas;

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C. paragangliomas.

XI. Tumors and tumor-like lesions of pluripotential mesenchyme:
  A. benign mesenchymomas;
  B. malignant mesenchymomas.

XII. Tumors of vestigial embryonic structures:
  A. benign: chordomas;
  B. malignant: malignant chordomas.

XIII. Tumors of possible extragonadal germ-cell origin:
  A. benign: teratomas (dermoid cysts);
  B. malignant: teratocarcinomas, embryonal carcinomas, choriocarcinomas.

XIV. Tumors of disputed or uncertain histogenesis:
  A. benign: granular cell tumors, chondromas of soft parts, osteomas of soft parts, genital adenomatoid tumors, myxomas;
  B. malignant: alveolar soft-part sarcomas, malignant giant cell tumors of soft parts, malignant fibroxanthomas, kaposi's sarcomas, clear cell sarcomas of tendons and aponeuroses.

XV. Non-neoplastic lesions resembling true neoplasms:
  A. xanthoma group: fibroxanthomas, juvenile xanthogranulomas, nodular tenosynovitis (giant cell tumors), villonodular synovitis;
  B. ganglia;
  C. localized myxedemas;
  D. myositis ossificans;
  E. proliferative myositis.

XVI. Soft tissue tumors, unclassified.

Clinical Staging

Clinical staging was practiced for many years following diverse private or institutional patterns, until the International Union Against Cancer promoted the T-N-M Staging System, in which the primary tumor "T" in a given patient is matched with the metastases in regional lymph nodes "N" and the metastases in distant organs "M." Clinical in nature, the T-N-M rating lacked the histological dimension of the tumor and therefore resulted in inconsistencies between the clinical stage and the prognosis. At least in soft tissue tumors, a more realistic staging has been devised by William O. Russell,[2] who has formulated the T-N-M-G system, by adding the histologic grade "G" to the T-N-M parameters.

The histological grade of a tumor is the pathologist's evaluation of the cellular pleomorphism, invasiveness, vascularity, mitotic figures, differentiation, and neoplastic giant cells. His conclusion is stated in one of three increasing grades of malignancy: I, II, and III. This new grading system has a broader base than the Broder's system, which was based only on cellular pleomorphism and was given in four increasing grades of malignancy. It is expected that similar reevaluations of the T-N-M classification will be undertaken in other tumors, to determine the correct type of treatment that should be undertaken and to accurately compare the success or failure of that treatment *(Tables I and II)*.

Multidisciplinary Treatment

The treatment of malignant soft tissue tumor has been marred by frequent recurrences and metastases in spite of impeccable surgical resections; therefore, the search for improvement has led to the multidisciplinary approach utilizing combined regimes that include surgery, radiotherapy, chemotherapy, and supportive therapy. Changes have also occurred in the objectives of the treatment which are no longer directed to the local disease and the treatment of the metastases as they appear, but to the total eradication of the tumor and the metastases even though the latter may not appear manifest.

Surgery remains the most effective method for the localized tumor, but should be supplemented by chemotherapy to decrease the ever present threat of metastases, since tumor cells circulate in the blood long before they are able to grow in other organs. Surgery is also applied to tumors previously judged inoperable if such tumors are made surgically accessible by radiotherapy.

Radiotherapy has established its value with the utilization of higher doses of super-voltage radiation when it can be directed to the lesion and shielded from the

TABLE I

T-N-M-G STAGING SYSTEM

Parameter	*Symbol*	*Category*	*Lesion*
Primary tumor	T	T1	Tumor less than 5 cm
		T2	Tumor greater than 5 cm
		T3	Tumor invades major vessels and nerves
Regional node metastases	N	N0	No evidence of metastasis
		N1	Presence or history of metastasis
Distant mestastasis	M	M0	No distant metastasis
		M1	Presence or history of metastasis
Histologic grade	G	G1	Well differentiated
		G2	Moderately well differentiated
		G3	Poorly differentiated

TABLE II

T-N-M-G CLINICAL STAGES

Stage	*Sub-stage*	*Patients' Characteristics*
I	I-A	G1 T1 N0 M0
	I-B	G1 T2 N0 M0
II	II-A	G2 T1 N0 M0
	II-B	G2 T2 N0 M0
III	III-A	G3 T1 N0 M0
	III-B	G3 T2 N0 M0
	III-C	G3 T1, 2 N1 M0
IV	IV-A	G1, 3 T3 N0, 1 M0
	IV-B	G1, 3 T1, 3 N0, 1 M1

adjacent healthy tissues. It can be combined with surgical resection when the excision cannot be complete and with chemotherapy, especially with potentiating compounds such as actinomycin D and Adriamycin, which add additional anti-tumor effect to the radiation. Radiotherapy has, however, two limitations that have to be evaluated in each case: (1) the effect on normal tissue adjacent to the tumor; and (2) the risk of induction of secondary malignancies, although this is considered to be less than 5 per cent.[3]

Chemotherapy in recent years has been the deciding factor in improving the prognosis of soft tissue tumors. Since its efficiency was demonstrated in tumors of childhood, it has been used for inoperable tumors, and recently in early tumors in combination with surgery and radiotherapy. Thus, adjuvant chemotherapy is now a well established approach to sarcomas. At the present time, the most used drugs are cyclophosphamide, vincristine, actinomycin D and Adriamycin, but many others are utilized, either as combined sequential regimes or associated with surgery or radiotherapy.

Among the chemotherapeutic regimes, the following are well utilized:

VAC[4]—Vincristine, actinomycin D, and cyclophosphamide. It is used for rhabdomyosarcoma of children. A variant known as "Pulse-Vac" which utilizes larger doses of cyclophosphamide in sequential manner has also been successfully administered.

Conpadri I[5]—Cyclophosphamide, Oncovin, phenylalanine mustard (PAM), and Adriamycin.

Cyvadic[6]—Cyclophosphamide, Adriamycin, vincristine, and dimethyl triazene imidazole carboxymide (DIC).

Cyvadact[7]—Cyclophosphamide, vincristine, Adriamycin, and actinomycin D.

TABLE III

PROGNOSIS OF SARCOMAS MULTIDISCIPLINARY TREATMENT[2]

Stage	*5-Year Survival*	*10-Year Survival*
I	80	70
II	55	30
III	30	70
IV	7	2.5

Conpadri II—Cyclophosphamide, Oncovin, PAM, Adriamycin, and methotrexate.

These chemotherapeutic agents are toxic, especially to the bone marrow, and cause acute marrow suppression, peripheral neurotoxicity, hemorrhagic cystitis, and cardiotoxicity. Therefore, the risks of leukopenia, superimposed infection, tissue toxicity, and thrombocytopenia have to be considered in every case.

The supportive therapy includes the intelligent use of blood components, especially red cells, platelet transfusions and fresh frozen plasma; granulocyte transfusions; oxygen therapy; hyperalimentation; physical therapy for the sequelae of radiation or surgery; dental care; and psychological support.

Utilizing this multidisciplinary approach, the Southwest Oncology Group at the M. D. Anderson Hospital and Tumor Institute has reported a different outlook on soft tissue tumors with five- and ten-year survival rates that appeared impossible before the advent of chemotherapy[2] (Table III). Their experience, corroborated at other institutions, is establishing a new prognosis for malignant soft tissue tumors, provided the diagnosis and staging are completed and the treatment planned at the initial phase of medical care.

References

1. Enzinger, F. M.; Lattes, R. and Torloni, H.: *Histological Typing of Soft Tissue Tumors*. The World Health Organization, Geneva, 1969.

2. Russell, W. O.: *Staging of Sarcomas*. 21st Annual Clinical Conference for Physicians. M. D. Anderson Hospital and Tumor Institute, Houston, November 11-12, 1976.

3. Li, F. P.; Cassady, J. R. and Jaffe, N.: Risk of second tumors in survivors of childhood cancer. *Cancer* 35:1230-1235, 1975.

4. Wilbur, R. J. *et al.*: Chemotherapy of sarcomas. *Cancer* 36 Suppl.:765-769, 1975.

5. Wilbur, R. J.: Treatment of soft tissue sarcomas. *Pediat. Clin. N. Am.* 23:171-181, 1976.

6. Gottlieb, J.: Combination chemotherapy for metastatic sarcomas. *Cancer Chemother. Rep.* 58:265-270, 1974.

7. Benjamin, R. S.: *Chemotherapy of Adult Soft Tissue Tumors*. 21st Annual Clinical Conference for Physicians. M. D. Anderson Hospital and Tumor Institute, Houston, November 11-12, 1976.

Cancer Data Service

Pancreatic Carcinoma Distantly Metastatic at Diagnosis, 1945-1974

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Ed. Note: This is the fifth and final series reporting on the survival of 3,842 patients with carcinoma distantly metastatic at diagnosis (Stage IV) who were registered at the Cancer Data Service (CDS), formerly the Cancer Information Center. For previous installments see the May and October 1976, and June and October 1977 issues.

CARCINOMA of the pancreas is an insidious, incurable disease that appears to be increasing in incidence since the 1920s. Pancreatic carcinoma now ranks fourth in cancer mortality; its mortality is exceeding that of stomach cancer and doubling that of rectal cancer.[1]

Prognosis for patients with local or regional disease is exceptionally poor and for patients diagnosed with disseminated pancreatic carcinoma, prognosis is even worse. This overall poor survival rate for pancreatic carcinoma indicates that it is a highly malignant, rapidly growing tumor that usually remains undetected until relatively late in its course. Pancreatic carcinoma tends to metastasize early, frequently while symptoms are still nonspecific.

Studies have indicated that carcinomas of the body/tail tend more often to be disseminated at the time of diagnosis compared to carcinomas of the head of the pancreas.[2] Metastases usually occur to the liver, lung, peritoneum, and bone. Prevalence rates for pancreatic carcinoma distantly metastatic at diagnosis have ranged from 44 to 52 per cent of all pancreatic carcinomas.[3, 4]

There is no cure for advanced carcinoma of the pancreas, and most patients with advanced disease move rapidly toward death.

Chemotherapy offers little in advanced pancreatic carcinoma. Likewise, there has been little evidence to indicate that radiation therapy has been of any benefit to these patients, even for palliation. Surgical resection is, of course, contraindicated in distantly metastatic disease, although biliary by-pass may be indicated for obstructive jaundice. Control of pain is the primary concern in the management of the patient with advanced pancreatic cancer.

Reported survival rates for treated advanced pancreatic disease are as follows:

TABLE 1

CDS Data					
Years	*1*	*3*	*5*	*7*	*9*
	%	%	%	%	%
1965-1974	14.4	5.2	3.9	3.9	0.0
1945-1964	5.5	2.1	0.7	0.7	0.7
Other Data					
Years	*1*	*3*	*5*	*7*	*10*
SOURCE	%	%	%	%	%
Albany County[5]	—	—	—	—	—
Cancer R&R[6]	—	—	0.0	—	—
Recent Trends[7]	6.0	2.0	1.0	—	—
Cancer Prog.[8]	—	—	—	—	—
Ohio[9]	5.3	2.3	0.0	0.0	0.0

Cancer Data Service Information

During the period 1945-1974, the Cancer Data Service registered 551 cases of pancreatic carcinoma. Of these, 264 (48%) were diagnosed as distantly metastatic. The status of these 264 patients at last follow-up was as follows:

	No.	%
Alive without obvious disease	2	0.8
Alive with disease	7	2.7
Dead without obvious disease	4	1.5
Dead with disease	249	94.3
Unknown status	2	0.7

Data for survival comparing the 146 patients diagnosed from 1945-1964, and the 118 patients diagnosed from 1965-1974, are displayed in *Figure 1.*

This study was supported in part by the Mid-America Cancer Center Program (through National Cancer Institute grants CA 15080 and CA 17959) and the American Cancer Society-Kansas Division, and is presented in cooperation with the State of Kansas Department of Health and Environment.

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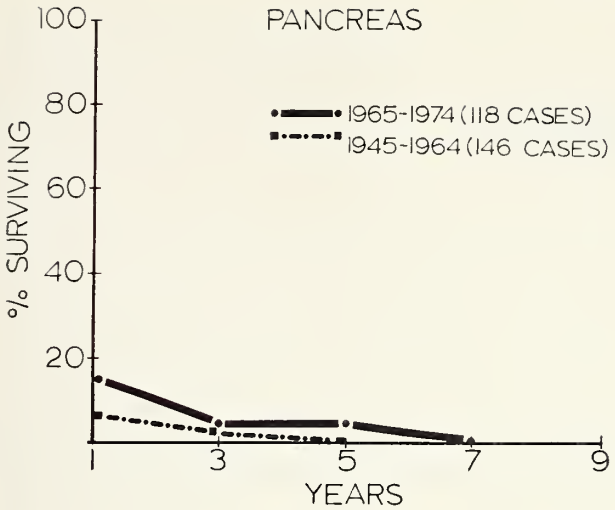

Figure 1

Summary

While survival in pancreatic carcinoma has improved somewhat during the most recent decade over the previous two decades, the increase is not significant. The trend toward chemotherapy, which closely trails surgery as the primary mode of therapy, should be noted and perhaps correlated to survival. Pancreas remains one of the grimmest of all cancer sites, because of poor survival and lack of significant improvement.

	No Treatment %	*Surgery* %	*Radiation* %	*Chemotherapy* %
1945-1964 ...	43	47	6	11
1965-1974 ...	36	43	8	30

Acknowledgment

Kansas hospitals contributing cancer case data to this study are: St. Joseph's of Concordia; Mercy of Fort Scott; St. Catherine of Garden City; Halstead of Halstead; Sheridan County of Hoxie; Bethany Medical Center, Kansas University Medical Center, and Providence-St. Margaret Health Center of Kansas City; Ransom Memorial of Ottawa; Mt. Carmel Medical Center of Pittsburg; Stormont-Vail of Topeka; and St. Joseph Hospital and Rehabilitation Center and Wesley Medical Center of Wichita.

References

1. *Cancer Facts and Figures*. American Cancer Society, Inc., New York, 1975.
2. Baylor, S. M. and Berg, J. W.: Cross-classification and survivor characteristics of 5,000 cases of cancer of the pancreas. *J. Surg. Oncol.* 5:335-358, 1973.
3. Carter, A. P. *et al.*: *Cancer in Washington and Alaska, 1960-1971*. Washington/Alaska Regional Medical Program, Seattle, Washington, 1973.
4. Ingall, J. R. F. and Patterson, J. C.: *Lakes Area Regional Tumor Service Registry Report, 1970-1972*. Lakes Area Regional Medical Program, Buffalo, New York.
5. *Albany County Tumor Registry: Tumor Registry Report*. Albany County Health Department and the New York State Health Department, New York, June, 1966.
6. Levin, D. L., *et al.*: *Cancer Rates and Risks*, ed. 2. United States Department of Health, Education and Welfare, Bethesda, Maryland, 1974.
7. Axtell, L. M. and Meyers, M. H. (Eds.): *Recent Trends in Survival of Cancer Patients, 1960-1971*. United States Department of Health, Education and Welfare, Bethesda, Maryland, 1974.
8. James, A. G.: *Cancer Prognosis Manual*. American Cancer Society, Inc., New York, 1969.
9. Ohio State University Hospitals Tumor Registry: *Results of Cancer Survival and End Results, 1962-1974*. The Ohio State University Hospitals, Columbus, Ohio, 1975.

AMA MEETING

The 31st Winter Scientific Meeting of the American Medical Association will be held December 10-13, at Miami Beach.

For the first time the interim winter session of the AMA House of Delegates will be held separately from the scientific meeting. The House will convene December 4-7 in Chicago.

The Winter Scientific Meeting offers a crossdisciplinary continuing medical education program for the physician who needs to keep abreast of the latest developments in his own and other medical specialty areas.

Program for the Florida meeting was published in the Oct. 24 *Journal of the American Medical Association*. It encompasses postgraduate courses covering the full range of problems encountered by the practicing physician in his office. Some of the materials will be offered as video clinics and others as television courses and motion picture seminars.

State of the art lectures will be presented on such topics as the Pill; prevention and treatment of stroke; origins of sex and gender; cosmetic surgery; coronary artery disease; snakebite; and the team doctor in amateur sports. The luncheon programs will discuss acupuncture; obesity; menopause; and television's impact on our way of life.

A satellite will be used to transmit specially prepared programs from the meeting at Miami Beach to physicians in 35 hospitals in 11 states on the other side of the nation (Kansas is not included). The event will mark the first time anywhere in the world that a major medical meeting of multidisciplinary scope will harness the power of satellite technology to provide continuing medical education.

Socio-
ECONOMICS

Collections

Payment at the Time of Service and the Exit Encounter

Ed Note: This is one in the series of articles prepared by the AMA Department of Practice Management, Division of Medical Practice. The subject of practice management has become more critical in recent years. To assist the physician in a smoother operation of his office, the Department has produced workshops for medical assistants dealing with such aspects as collections, public relations-telephone techniques and office management, as well as practice management workshops for the new physicians. The Kansas Medical Society Executive Office will present such workshops upon demand by members.

THERE IS AN increasing trend for medical offices to adopt a policy of payment at the time the service is rendered for small accounts such as office visits. This doesn't mean that you put up a large sign in the office saying, "All Work Cash." There is a more professional and better way of implementing such a policy.

Generally, all that is required is for the medical assistant at the exit counter to say, "The service today, Mrs. Smith, is $12.00," or whatever the amount of the bill. The medical assistant then waits for a response from the patient.

Mrs. Smith may pay the $12.00—or ask if she can write a check—or say that she isn't prepared to pay today. The medical assistant then says, "We will be happy to bill you for this visit, Mrs. Smith, but we would appreciate it if you would plan to pay for your next office visit at the time you come to the office."

The medical assistant can, if you prefer, go one step further. She can make up a handwritten bill on the spot and hand it to Mrs. Smith and say, "Here is the bill for today's services. Please send us a check when you get home."

A policy of payment at the time service is performed can have rather dramatic results. A professional consultant recounts a story about a three-man group that was sending out 2,900 statements per month and had $70,000 outstanding on the books. Within six months after establishing a policy of payment at the time of service, for charges of $15.00 and under, the statement load dropped to 900 per month and the outstandings were reduced to approximately $20,000.

The medical assistant doesn't have to do this arbitrarily, without exception. If the patient has a problem that requires long and constant treatment, the exit encounter can be used to find out if keeping up with the payments will be a problem and to offer to work out a payment plan if necessary.

When it is known in advance that the patient is going to incur a large medical bill, the cost should be frankly discussed with the patient by the doctor (or the medical assistant) to help the patient arrange a payment procedure. If insurance is involved, the medical assistant will probably have more information about the coverage than the physician.

Regular patients who sometimes pay and sometimes do not, and whose accounts continue to grow can also be a problem. These accounts should be "flagged" and when the patient next makes an appointment be sure that the account record is at the exit counter. The medical assistant should call the patient's attention to the balance due and suggest a payment arrangement to clear up the account before it gets so large that it becomes a real burden to the patient.

If your office has a *Patient Information Booklet*, and we find many more offices now using these little booklets, you can clearly state in it your policy of payment at the time of service and your willingness to discuss the cost of expensive medical procedures. (If you do not have a patient information booklet you can write

(Continued on page 487)

Rural Manpower

A Different Perspective as Viewed by the Kansas Physician and Senior Medical Student

GEORGE E. BURKET, JR., M.D.,* *Kansas City, KS*

The responses of 259 Kansas physicians and 68 senior medical students to questions concerning factors influencing physician manpower for rural communities are presented and briefly examined. Additional efforts in new directions seem indicated.

RURAL MANPOWER PROBLEMS have been very difficult to solve and most attempts to do so have been unsuccessful.[1] Many different proposals have been made and programs instituted, from various types of preceptorships to mandatory servitude. Suggestions have been made that physicians be replaced, if necessary, by allied health personnel, with no real concern that physician assistants or nurse clinicians might balk at locating in communities where physicians will not go unless forced to do so by coercion or economic pressure.

One of the earliest attempts toward interesting young physicians in rural medicine is the preceptorship with doctors in rural areas. Exposed to rural practice away from the medical school, the student was to be automatically attracted by this new type of medicine which he/she had never seen before. Over 40 years of preceptorship have not seemed to have made much difference, but perhaps one could state that the situation would be worse by now without them.

For many years, local recruitment committees have labored with various degrees of diligence and baskets of promises. Such committees have met with some success, but in recent years have influenced the rural dilemma very little. There is now a new wave of enthusiasm for this activity and many professional groups are active in this arena. Success to date is minimal.

Casual observation has produced the theory that young physicians tend to settle near their medical school or their graduate education institution. Pursuing this line of thought, one now observes attempts by more than a few medical schools to extend part of medical education into community settings with additional efforts directed toward the establishment of graduate programs in rural areas.[2–4]

In the belief that students from rural communities are more apt to return to rural life for the practice of medicine, many admission committees of medical schools are besieged by enthusiasts for radical changes in admission policies.

In spite of all these theories and sincere efforts on the part of communities and medical schools, the health manpower situation in rural America continues to be critical. In fact, the situation has existed long enough now that one often observes the "rediscovery of the wheel" as the problems are approached with the same tired solutions that have been unsuccessful in the past.

A search of the literature fails to reveal a specific record of any imaginative individual going to practicing physicians in rural areas and asking why these physicians settled there in the first place, and what they would expect of a community if they were making the choice today. Most of our energies seem directed toward devising ways and means to push young physicians to rural communities rather than helping communities attract them.

It is the purpose of this investigation to accumulate data with which to formulate opinion and stimulate thought toward the determination of factors which will attract physicians to our rural and semi-rural regions.

Twenty to 30 years ago, when the trend in medicine and medical education was toward the subspecialties,[5] physicians were not being trained who were able to practice in our smaller communities. Their education was not such that they could practice alone caring for large numbers of unselected problems. Today, however, with the tremendous increase in interest in primary care, adequate numbers of physicians soon will be trained to fill the health manpower needs in rural areas—*if these areas are able to attract them.* Certainly, there is no satisfactory way they can be made to go and stay. As stated earlier, this has been tried in many ways and failed. Mandatory servitude offers no solution for the future.

In conducting this investigation, a carefully con-

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structed and meaningful questionnaire was sent to 400 family physicians in the state of Kansas. The questionnaire was also sent to 125 senior medical students. No attempt was made to contact only physicians in rural Kansas, but about an equal number of questionnaires went to urban Kansans.

Nineteen specific questions were asked *(Table I)*. For useful data it turned out that one could just as well add together the "very important" and "important" answers and use the total, as opposed to the "not a factor." Evaluating the very important in relation to the important does give one some idea, however, pertaining to degree.

The practicing physicians were asked also to complete a second questionnaire, requesting them to supply the same information as though they were beginning practice today. In all instances, the results were so similar in both questionnaires as to be statistically insignificant. Consequently, the results of the second questionnaire are not considered here.

The students were asked exactly the same questions and were requested to answer in the context of how they will be influenced in locating a practice.

The results are most informative and interesting *(Figures 1-3)*. The data is presented in graph form for easy study and perusal. There is a distinct similarity in the medical students' and practicing physicians' opinions, with the students being more emphatic. Of the 400 questionnaires sent to practicing physicians, 259 (63%) were returned. Of the 125 sent to students, 68 (54%) were returned. Both are sufficient to yield valid data.

As one examines this data, it becomes apparent that a number of theories and widely accepted ideas are challenged. According to the response of the two groups surveyed, local recruitment committees and rural preceptorships offer very little success by themselves in solving our rural health situation; and judging from the survey, having formal undergraduate and graduate medical education nearby is not likely to be the final and overwhelming answer. This does not mean that these efforts should be discontinued, but perhaps too much is expected from them or maybe we are expecting them to do the wrong things. The preceptorship, for instance, provides the student an overall view of a type of practice that is impossible to demonstrate completely at a large medical center. It may encourage the student to return to medical school and train for

TABLE I

QUESTIONNAIRE

Size of Community of Practice Location

< 5,000
5,000-20,000
> 20,000

Reasons for Practice Location:
- Community background (raised in same size community)
- Family/friends in community
- Influence of older physicians in community
- Influence of community recruitment committee
- Preceptorship in similar community
- Community near medical school
- Community near residency or internship
- Size of community preferred (chosen by intent, not because of practice opportunity)
- Good educational resources for children
- Need for immediate economic security
- Availability of cultural resources
- Availability of social opportunities
- Availability of recreational resources
- Concern about professional isolation
- Concern about available modern medical facilities
- Concern about clinical support (consultants, nurses, technicians, etc.)
- Concern about overwhelming work load

How far is your practice from where you did your internship or residency?

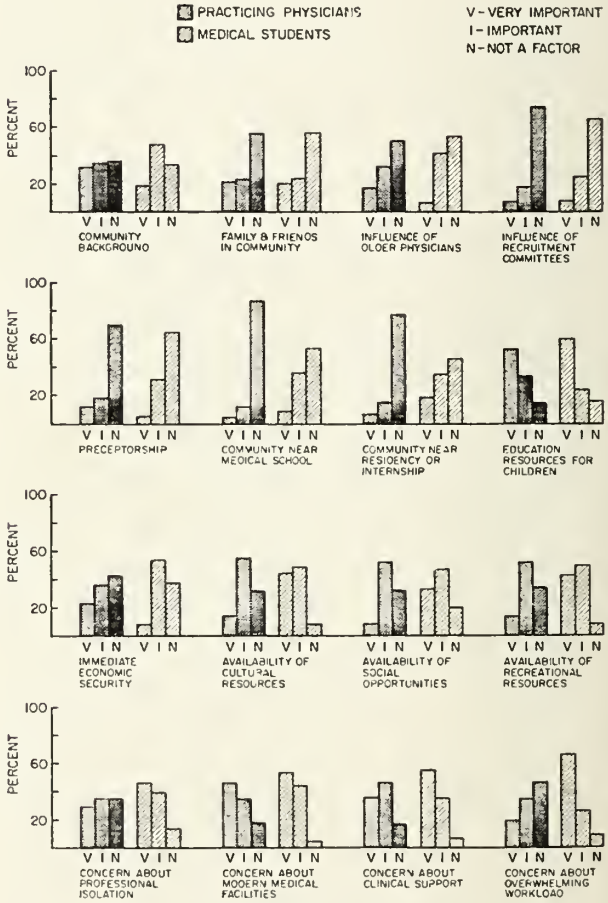


Figure 1

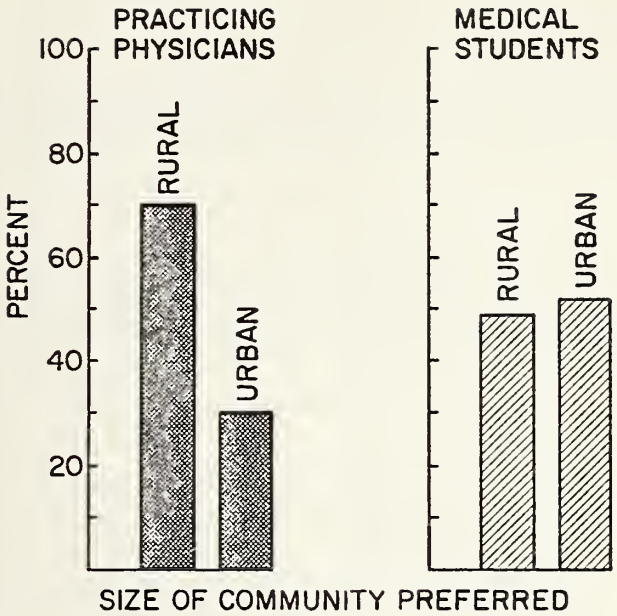


Figure 2

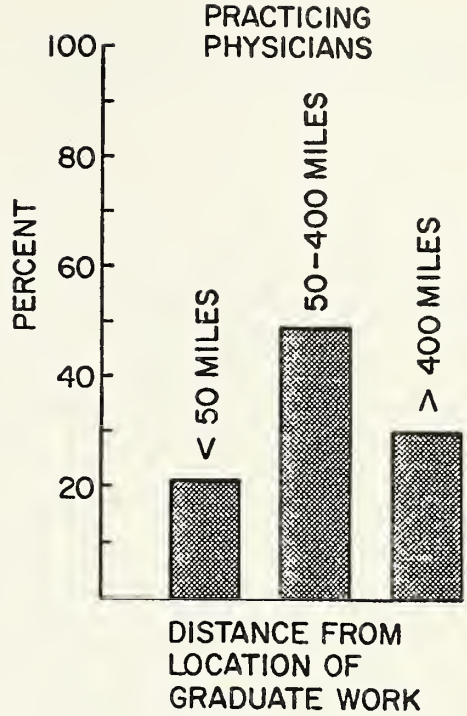


Figure 3

that type of practice, but it does not guarantee that he will return to a similar size community.

For a medical school to utilize community facilities to give its students a broader and more thorough education, undoubtedly, is beneficial to the student and a proper function of a good school. It does not, however, mean that it is the answer to rural health manpower.

Data from the survey indicates that both, the practicing physicians and the students, feel that community background is important, and perhaps admission committees would be wise to consider this factor in their deliberations.

The degree to which family, friends, and older established physicians influence practice location could not be determined by our investigation. A slight majority of the students indicated they are not important.

It is essential to note that the majority of students and practicing physicians consider good educational facilities for children and availability of cultural, social, and recreational opportunities of utmost importance. Similarly, modern medical facilities and adequate clinical support are prime necessities.

Proximity of the graduate training institution does not seem to be a factor *(Figure 3)*. Apparently, the quality of the graduate training program, and not the region, is the most important factor.

When one carefully considers this data, it becomes obvious that merely graduating more and more physicians capable of practicing medicine in rural America is only part of the equation. Equally important are the local communities themselves, government, and the entire university system. Local communities should take the initiative in creating an ever-improving environment of good schools and adequate recreational, cultural, and social opportunities in rural regions. The university systems should be prepared and willing to assist the communities in this effort.[6] Additional effort might be expended toward developing the potential for modern ambulatory medical facilities, combined with suitable types of inpatient services plus clinical support, to be utilized by the rural physicians and their allied health colleagues.

If we are really intent on solving the rural health dilemma, it seems urgent that government and the entire university and college system demonstrate a vigorous, distinct, and continuous interest in the rural environment and life style.

In summary then, if the young physician can feel that he/she is part of a progressive, exciting social change that will bring a better and more secure life for millions of Americans, that physician will hurry to the rural community. However, if that same physician is convinced that he/she will be part of the burial ceremony of a glorious past, there is no way the young physician can be forced to participate.

References

1. Health Care Delivery in Rural Areas, Council on Rural Health, American Medical Association, 1972, p. 5.

2. Geyman, John P.: Changing Directions in Medical Education, *The Modern Family Doctor and Changing Medical Practice*, Appleton-Century-Crofts Corporation, New York, NY, p. 92.

(Continued on page 488)

Outplan the Planners

The Medical Society and Health Planning

HUGO WEBER, M.D., *Wichita*

PRESIDENT GERALD FORD, on January 4, 1975, signed into law the National Health Planning and Resources Development Act (PL 93-641). This law is a federal mandate aimed at cost containment in health practices. It provides a framework within which individuals can plan and implement health care regionally, and by so doing cooperate in a national program to reduce health care expenditures.

The law designates three major groups of individuals responsible for health planning: (1) *Consumers* are recipients of health care; they are our patients. Consumer representation is broad, and includes a spectrum of economic, social, racial, ethnic, and linguistic backgrounds; (2) *providers* include physicians, dentists, nurses, and hospital administrators—individuals actively engaged in delivering health care at different levels; (3) A new bureaucracy of *planners* has been created by the law and functions administratively for consumers and providers.

The modern physician finds himself on the one hand utilizing expensive technology to care for patients, and on the other hand justifying its expense to patients. Never before have the physicians been in such a defensive posture. Our credibility is being challenged, and we are in danger of alienating our closest ally, the patient. Our response to health planning must not be indifference or hostility. We must demonstrate our concern for the patient by involvement in health planning. The purpose of this communication is to describe how one group of physicians mobilized to meet this challenge.

Background

"Grass roots" health planning is not a new concept. The economic devastation resulting from the Great Depression of the 1930s left many rural counties in the nation without adequate medical facilities. The Hill-Burton Act of 1946 sought to correct deficiencies by providing federal funds for hospital construction based on needs determined at the state level. State advisory councils of consumers and providers were responsible for surveying hospital needs, and particular attention was given to the needs of rural communities. The Hill-Burton Act was extended in 1964, to provide for construction of nursing homes and rehabilitation facilities. The hospital began to assume a dominant role in health care practices throughout the United States. While an important issue, cost was not yet an overriding concern.

Address reprint requests to Dr. Weber, 1035 N. Emporia, Wichita, KS 67214.

An organization for physician participation in health planning has been implemented by the Minnesota State Medical Association. A similar program is suggested for Kansas, to allow maximum physician input in health planning.

The New Frontier focused on medicine in the early 1960s. Politicians were concerned, because it was felt that truly excellent medical care was being delivered to only the very rich and the very poor. A double standard was present and the vast middle class was neglected. At the same time, medical research was doing little to define the causes and progression of the big three: cancer, stroke, and heart disease. Attention was turned nationally to these maladies in terms of research, patient care, and education. It was felt especially important that all citizens have access to diagnostic and treatment facilities. On March 7, 1964, President Johnson appointed a commission, chaired by Dr. Michael DeBakey, to study the problem of medical care in terms of heart disease, cancer, and stroke. Three of their 35 recommendations formed the basis for legislation, which emerged in 1965 as the Regional Medical Program (RMP) (PL 89-239), designed to provide a national network of regional centers for clinical investigation, teaching, and patient care. At the hub of the RMP wheel, the university medical center was to serve as focal point of the program, with patient access defined along a hierachy of spokes in the wheel. Continuing medical education would be assured, for as knowledge accrued at the hub, it would be disseminated to the periphery.

The Regional Medical Programs were doomed early in their existence and lingered to die a slow death. An eloquent autopsy has been conducted by Dimond.[1] Health care was (and is) a sensitive area. The administration, anxious to pass Medicare and Medicaid laws, did not confront organized medicine on the subject of

RMP. Insufficient administrative staff resulted in poor management of funds. Leadership diffused from Washington to the medical center hubs and along the spokes to the grass roots at the periphery of the wheel. Here it became subject to local politics and gradually withered and died.

Comprehensive Health Planning (CHP) (PL 89-749) was introduced in 1966, and created further confusion by overlapping RMP in many arenas. The Health Planning and Resource Development Act was thus enacted to amalgamate these health programs into a single program of broader scope.

The Law

PL 93-641 provides for the creation of Health Systems Agencies (HSA), the regional heart of the law. The HSA is responsible for a health service area with a population of 500,000 to three million. HSAs have been named for each of about 200 geographic regions in the United States. Four such areas have been designated in Kansas *(Figure 1)*. The law specifies that the majority, but not more than 60 per cent, of the governing board of the HSA be comprised of consumers. Assisting the board is an administrative staff with expertise in health planning theory and techniques, system analysis, and management.

The responsibility of the HSA is to provide health planning for the service area. Planning includes the development of health services utilizing manpower and facilities which meet identified needs, and reduce documented inefficiencies. These goals are accomplished by three areas of activity: assessment, planning, and implementation.

Assessment consists of determining the health needs and resources in the area served by the HSA. Input regarding needs and resources is gathered from multiple sources including consumers and providers. Priorities are established following guidelines such as those published by Metzler.[2] The HSA thus determines the strong and weak points of health care in the area, and then plans for improvements in the health system. Goals and objectives are defined, and strategies for accomplishment are developed by the HSA.

Planning is accomplished with guidance from the Community Health Systems Plan (HSP), which addresses the needs of the population in terms of what they can afford. At the present time, Kansas HSAs are in the process of formulating their HSPs. The HSP is not a static document but will undergo evolution in depth and scope as health care changes in the area. An Annual Implementation Plan (AIP) serves to detail progress in the planning activities of the HSA.

Implementation of the HSP will probably be accomplished by a combination of political and financial

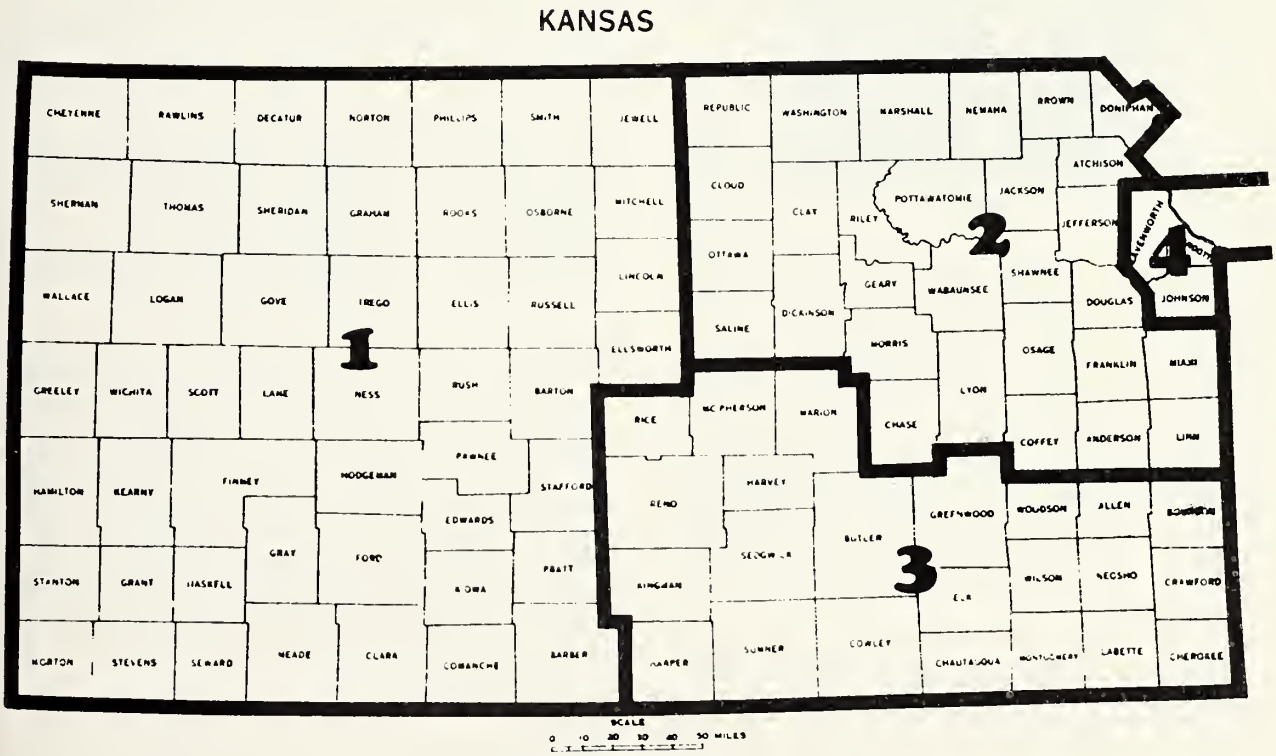


Figure 1

State Health Service Areas

pressure. Major health financing programs, such as Medicare and Medicaid, are not subject to PL 93-641, but area Health Services Development Funds will be influential in plan implementation.

Health planning under PL 93-641 is under way across the country. The response of physicians to this law in the state of Minnesota is detailed below.

The Minnesota Response

The motto of Minnesota physicians is, "Outplan the Planners."[3] To accomplish this goal, the Minnesota State Medical Association has established a physician bureaucracy to parallel the state health bureaucracy. The Minnesota Physician Health Forces (PHF) are functional units corresponding to the seven HSAs in Minnesota. Members of the PHF include representatives from county medical societies within the HSA, as well as physicians involved in the health planning and other governmental regulatory tasks. Each PHF relates to a central physician Health Planning Committee at the state level. The Health Planning Committee of the Minnesota State Medical Association coordinates activity of the PHF and ensures statewide distribution of information pertinent to health planning. Physician participation is important in questions of specialty practice, and ad hoc committees of the PHF serve this purpose. Physicians expert in specialty and subspecialty disciplines are thus assured input into the health planning process.

Minnesota physicians have shown us that organization is essential for process flow. The more organized the structure, the less waste of physician time, and the more effective the lines of communication. Tight organization is especially important in predominantly rural states.

To implement the Minnesota program in Kansas, each component society of the Kansas Medical Society might send one or two member delegates to a state-level meeting for preliminary organization; subsequently, each society could work toward the creation of a PHF within its own HSA area.

Organization is paramount; we cannot respond to planners individually. Our response is needed and our patients, the consumers, are turning to us with questions. Are we going to answer them?

References

1. Dimond, E. G.: RMP—As I knew him: The rise and fall of an idea. *NEJM* 290:1257, 1974.

2. Metzler, Dwight: *A Balanced Perspective on the Health of Kansans: Needs and Priorities, 1976-77*. Kansas Department of Health, December, 1976.

3. *Health Planning Bulletin*, American Medical Association, November 19, 1976.

Information for Authors

Manuscript Preparation

Manuscripts must be typewritten, double spaced, leaving wide margins. Submit the original, plus one copy if possible.

Titles should be short, specific, and amenable to indexing. A subtitle is frequently used to keep the main title short.

Summary: All manuscripts should include a short abstract which is a factual (not descriptive) summary of the work.

Author Responsibility: The author is responsible for all statements made in his work, including changes made by the copy editor. Manuscripts are received with the explicit understanding that they are not simultaneously under consideration by any other publication. Publication elsewhere will be subsequently authorized at the discretion of the Editor.

Galley Proof: To make extensive changes in the article after the text has been set in type may require an additional cost which exceeds the original. The galley proof is for correction of ERRORS, and a rewriting of the article should be done on the original copy BEFORE it is submitted for publication.

Drugs should be called by their generic names; the trade names can be added in parentheses if they are considered important. All *units of measure* must be given in the metric system.

References

Bibliographic references should not exceed 20 in number, documenting key publications. Personal communications and unpublished data should not be included. References should be arranged according to the order of citation, and not alphabetically. All references must be numbered consecutively and all must be cited in the text. Use the style of the AMA publications, giving: name of author, title of article, name of periodical, volume, pages, year.

Illustrations

All material which cannot be set in type, such as photographs, line drawings, graphs, charts, tracings (for preparation of tables, see below) must be mounted on white cardboard. All must be identified on the back as to figure number, author's name, and an arrow indicating top. Legends should be typed double spaced on a separate sheet of paper, limited to a maximum of 30 words.

Drawings and Graphs should be done professionally in India ink on illustration board or high grade white drawing paper.

Photographic material should be submitted in duplicate as high contrast, glossy prints. Color illustrations will be accepted for publication only if the author assumes the cost.

THE JOURNAL will assume the cost of B/W engravings and cuts up to $35 (or 5 cuts). Engraving cost for illustrations in excess of $35 will be billed to the author.

Tables

Because tables are set by hand, their cost is comparable to illustrations. A reasonable number of tables are allowed without cost to the author.

Tables should be self-explanatory and should supplement, not duplicate, the text. Since the purpose of a table is to compare or classify related items, the data must be logically and clearly organized. The relationship and comparison are established by the correct choice of column heads (captions of vertical columns) and stubs (left entries in horizontal listings).

Each table should be typed double spaced, including all headings, on separate sheets of lettersize paper. Oversize paper should not be used. Instead, repeat heads and stubs on a second sheet for tables requiring extra width. Number tables consecutively. Each table must have a title.

Reprints

A reprint order form with a table covering cost will be sent with the galley proof to each contributor. Since the JOURNAL has no way to provide for reprints, they must be ordered by the author and purchased directly from the printer.

The President's Message

There are many fine organizations among the allied health groups. One unsung group, The Kansas Medical Assistants Society, offers membership in a professional organization to your employees—Receptionists, Bookkeepers, Technicians, Secretaries or Nurses.

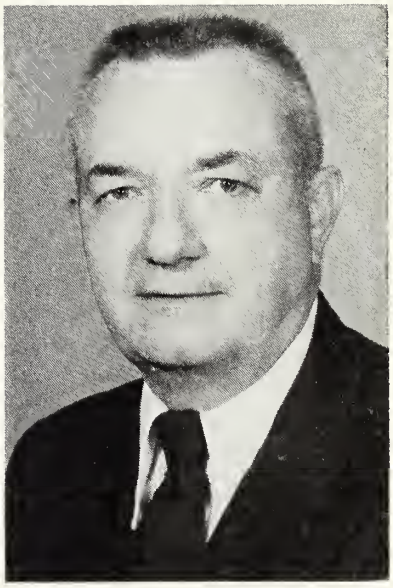
Briefly, KMAS consists of hard-working individuals whose primary goal is to serve physicians and their patients. The whole purpose of the organization's existence is to further education, to do a better job. To this end, a rather rigorous certification program was developed and is well underway, with many MAs appending "CMA" to their names. The constitution of KMAS specifically forbids the organization to become a union or be used for bargaining purposes.

The list of their accomplishments is long. Suffice it to say, Agnes Burns, Maxine Williams, Carmen Kline are just some of the names associated with this worthy group. Kansas MAs have especially been zealous in pursuing the cause of medical assistance, to the point of organizing the national group, American Association of Medical Assistants (AAMA). Maxine Williams was the first president of AAMA. Agnes Burns was the first secretary to the Kansas Medical Society, serving Dr. Hassig while he was President.

The AMA, in collaboration with AAMA, accredits medical assisting programs at the post-secondary school level. Some 120 of these academic programs in medical assisting are now offered by educational institutions across the country. These programs are enlarging the reservoir of well-trained graduates equipped for employment with a minimum of on-the-job orientation.

Membership in the Kansas Medical Assistants Society will help your assistants keep up to date and informed of new ideas and techniques. Their continuing education seminars will enhance the professionalism of your office employees.

Mary Klinge, RRA, CMA-A, is currently President of the KMAS. Irene Bish, Memberhip Chairman, may be contacted at 6501 Aberdeen, Wichita, Kansas 67206.



Fraternally yours,

John D. Huff M.D.

President

Mediserve

The production and distribution of physicians have, by and large, been allowed to seek their own level. This system, for whatever service it gave earlier times, has been sorely strained by the pressures of a social revolution seeking the same everything for everybody, a medical revolution which is changing the whole substance of medical methods and expectations, and an economic revolution which is altering the purpose and logistics of all human endeavors, particularly those of personal service.

The struggle to provide sufficient physicians to serve the people of Kansas is a case in point. It means little to talk about the "right" number of physicians for a given population. There are far too many factors involved and a community, regardless of size, will feel properly served medically only when it is supplied with sufficient physicians of ability and availability to give it a sense of security regardless of the numbers involved. It is accepted that there is a shortage of physicians in the state because more could be readily absorbed and sufficiency would probably be recognized only by oversupply. But the general shortage is accentuated in the rural areas and the hope for acquiring more physicians is first of all a hope to ease the inequity between town and country.

The establishment of a medical school in Kansas was an early effort toward a double benefit—the provision of its citizens with this form of specialized education and the provision of a likely source of medical practitioners to serve the populace. For the most part, the utilization of this physician output has been on a *laissez faire* basis with sporadic and largely localized attempts to attract medical service to the underserved areas. The chronicity of the problem and its failure to respond to these intermittent therapies has brought increasing legislative demand for a specific amount of medical service in return for training in state-supported institutions. There seems to be an element of frustration and desperation in the attitude of some legislators and the tone should sound familiar to the medical community: you haven't been able to do it yourselves so we're going to do it for you. We are now confronted with proposals which range from increasing tuition to a prohibitive level to requiring the graduate to repay to the state the amount presumed to have been spent on his education if he ventures beyond the borders to practice. If nothing else, the proposals show that there is no agreement on the dollar value of this education, since the suggested indemnities have ranged from $15,000 to $40,000.

There seems to be nothing wrong with these plans except that they are discriminatory, punitive, counterproductive, and probably unconstitutional. In principle, there is no justification in putting such an obligation on the medical student if the same requirement does not apply to other products of the state educational system, at least at college and graduate level. Certainly it would be punitive to put this educational ransom higher than the actual cost of the training. Given the complexities of financing the educational structure, the benefits to the citizens of the state from the medical schools, and the contributions of the students themselves in the course of their training (not to mention the fact that they come almost entirely from tax-paying families and are themselves taxpayers), how is this figure determined?

It should be apparent that such a plan would be a deterrent rather than an enticement to prospective medical students. It would act to reduce the inflow rather than increase the service volume of the output. Medical education is in short supply all over the country, and it is good to have a school whose prime interest is in state residents. But as long as there is a ready market for physicians' services throughout the country, students will seek training elsewhere and under less restrictive conditions, rather than accept a compulsory commitment to indenture at a time when they face so many uncertainties. And it is quite a different thing to

persuade physicians to accept certain practice conditions by offering benefits than to confine them to state quarters with a financial club.

We are always skeptical of quoted figures since they are the most abused of our communication devices, but it is worth pointing out that at the moment membership in the Kansas Medical Society, which, except for a few special practice situations, should be a fair count of the active physicians in the state, is about 2,200, give or take a few. Just over 1,000 of these—more than 45 per cent—are KU graduates. Now we think that indicates a pretty fair retention of our medical school products. True, we need more physicians in total—and recruitment efforts are going forward—but in terms of getting returns on our investment, we wonder how many state projects do better. And there is the complementary aspect to our numbers game. If 45 per cent of our physicians are trained at Kansas taxpayers' expense (plus their own), that means that 55 per cent are available to Kansans without that expense. That seems to be not too bad an exchange. Is the legislature as ready to reward these imports for coming in as it is to penalize its own products for going out?

The problem is obviously of two parts: the supply of physicians for the state as a whole, and the provision of medical service to the rural areas—with emphasis on the latter since it admittedly takes a little pressure to get physicians into those areas. It is hard to know just what a country doctor is anymore, but we suggest that if we count those based in towns of 5,000 or less, we must be talking about that particular breed, since it seems reasonable to assume that they are serving a rural population at least as large as the urban. Again our rough figures indicate that such communities comprise about 12 per cent of the state population, and it so happens that we find about 12 per cent of Kansas physicians located in these towns. Now they must serve the rural area too, so this is not to say things are in balance but there does seem to be some significance in the fact that 70 per cent of the physicians in those communities are Kansas graduates.

None of this—or our objection to the fact and the method of the legislative efforts—is intended to propose that all is well. The need to obtain more physicians and promote their acceptance of rural practice is admitted. In fact, it must be carried further. Any viable plan must retain physicians in the rural areas rather than create a sort of rural residency suffered by the reluctant physician as a penalty imposed for his education—and after which he will head for other parts.

This points up the wisdom and worth of the Mediserve plan you are hearing about. Briefly, the plan was instigated by the Kansas Farm Bureau and is being administered jointly by it, the Kansas Medical Society, and the medical school. There are two prime features. First, it will provide recommendation assistance, which simply means that prospective medical students who have academic qualifications for admission to the school and who are *voluntarily* willing to commit themselves to rural practice will have the considerable support of these groups in obtaining admission—and, not just incidentally, 20 places in each class are earmarked for these students. Second, there is a loan assistance program which will provide financial aid at 4-per cent interest for prospects with the same qualification but in need of this added assistance.

The plan has numerous obvious recommendations. In the first place, it is the product of cooperating citizen groups—and consequently free of the heavy governmental hand. Second, its sponsorship by the Farm Bureau not only expresses a sincere interest in resolving this continuing problem but establishes a contact with prospective students who by experience and philosophy will bring an interest in rural practice with them and provide a stable, continuing source of medical service. The three sponsors all have vested interests in the plan and in its success, and it forms another organ of communication among them which will continue to contribute to its viability. The student knows what he is getting into and where he stands. It is cooperative, not coercive.

We have two particular hopes in regard to the venture. First, we hope the legislature gets the message: the matter should and can be handled on a citizen action level, not as a political pressure maneuver venting the legislative resentment at a problem that won't go away. Second, while the Farm Bureau has an obvious interest in initiating the plan (and deserves our sincere commendation for its foresight), there are numerous other citizen groups who have just as much to gain by resolution of the medical manpower situation. It is a problem which the medical community cannot solve alone because it involves the interests of all. Using the same approach, other groups can promote worthy students and offer a basis of appeal for practicing within the state without threat.

At this point, it is incumbent upon us to give all possible support to Emerson Yoder who, as president of Mediserve and the prime mover from the medical side, will be maneuvering the effort through its initial stages. Every physician can contribute by awareness of the purpose and function of the plan, by contacting appropriate candidates in order to acquaint them with it, and providing the Mediserve staff with recommendations and assistance in following up on them.—*D.E.G.*

Council Meeting

Report of Meeting Held September 18, 1977

A meeting of the Council was held at 10:00 AM on Sunday, September 18, 1977, at the Holiday Inn Holidome, Hutchinson. Dr. John D. Huff, President, called the meeting to order.

Present were the following officers and councilors: Drs.

Lewis G. Allen, Jr., M.D. ..... Shawnee Mission
Philip J. Antrim, M.D. ..... Anthony
Clair C. Conard, M.D. ..... Dodge City
Jack R. Cooper, M.D. ..... Shawnee Mission
Herbert Fransen, M.D. ..... Newton
Phillip A. Godwin, M.D. ..... Lawrence
L. William Halling, M.D. ..... Hays
John D. Huff, M.D. ..... Kansas City
Jack E. Lungstrum, M.D. ..... Salina
Warren E. Meyer, M.D. ..... Wichita
Robert F. Moore, M.D. ..... Caney
Richard H. O'Donnell, M.D. ..... Clay Center
Alex Scott, M.D. ..... Junction City
Floyd L. Smith, M.D. ..... Colby
Millard C. Spencer, M.D. ..... Topeka
William C. Swisher, M.D. ..... Wichita
Max E. Teare, M.D. ..... Garden City
William K. Walker, M.D. ..... Sedan
Kermit G. Wedel, M.D. ..... Minneapolis
Emerson D. Yoder, M.D. ..... Denton

Also present were Drs. Anol W. Beahm, Franklin G. Bichlmeier, Cyril V. Black, John N. Blank, Richard L. Brownrigg, Thomas P. Butcher, Gilbert N. Cassady and George M. Penn. Also present was Mrs. Jackie Burnett, KMS Auxiliary President. Also present were Messrs. Gary Rexford, Jerry Slaughter, Gary Caruthers, and Mrs. Val Braun.

Dr. Penn presented the Impaired Physician Committee report. He reviewed the number of physicians licensed to practice medicine in Kansas in 1976, and those under investigation by the Board of Healing Arts. Dr. Penn also referred to the present Kansas laws as they apply to the impaired physician, and Resolution No. 77-7, adopted by KMS House of Delegates concerning physician discipline. He reported that medical associations in 35 states have initiated the project whereby impaired physicians are identified, persuaded to seek voluntary help, and are coerced to do so when all other attempts fail.

The proposed plan for Kansas would be modeled on the Georgia program, and would consist of two committees: (1) professional conduct and medical ethics committee, which would have a relationship with the Kansas State Board of Healing Arts; and (2) physicians' consultant committee, which would work within the Medical Society. The proposal includes establishing a crisis line or a telephone line to the Kansas Medical Society Executive Offices, to be used by physicians, spouses, medical societies, public, pharmacy, hospital administrators, and others. These calls would then be referred to the physicians' consultant committee for follow-up. A physician determined to be impaired would be encouraged to seek help voluntarily. If no response to the voluntary request is received, then the case could be referred to the Board of Healing Arts for appropriate action.

Following considerable discussion, the Council approved an expenditure of up to $8,000 for the development of proposals by the Impaired Physician Committee.

Dr. Walker, Treasurer, presented the proposed budget for 1978. Upon recommendation by Dr. Walker, the Council approved writing off $1,143.97, as the amount due by the Kansas Foundation for Medical Care, Inc.

The Council approved salary increases for the Executive Staff as follows: Messrs. Jerry Slaughter and Gary Caruthers at 7.5 per cent; Mrs. Val Braun, 8 per cent, all effective October 1, 1977.

The membership dues for 1978 remain unchanged.

The Council was presented with the opinion of KMS Legal Counsel concerning physician advertising. Mr. Stratton's opinion indicates that the ruling in the case of Bates vs Arizona State Bar would not affect Kansas law as it now stands, nor the ethical standards of the American Medical Association (and KMS).

The Council approved a change in the format of annual meetings beginning with the 1979 meeting (Hutchinson). The new meeting dates would be the first Friday through Sunday in May, with the Sports Day either preceding or following.

The Professional Liability update report included the following items:

—SB-646 was upheld as constitutional in the district court;

—The insurance premium will probably increase, be-

cause the claims-made policy has a built-in graduated increase over a 4-5 year period, which would eventually level off and approximate the amount of an "occurrence" policy;

—The "locality rule" case involving Dr. Mih, Chanute, was recently overturned by the Supreme Court allowing the case to be appealed. The Professional Liability Commission has drafted a bill which would codify the "locality rule" into law. Additionally, bills on the confidentiality of medical staff records and others are being developed;

—The response to requests for participation on screening panels has been excellent. A list of available participants is now being compiled.

The Council members were given a list of the interim legislative committees which are meeting and deliberating matters of medical interest.

In discussing the proposed changes in the Nurse Practice Act, the Council agreed that the wording, "the foregoing shall not be deemed to include acts of diagnosis or prescription of therapeutic or corrective measures" should be left in the bill.

Deep concern was expressed regarding erroneous newspaper articles with respect to alleged Medicaid overbilling by physicians. Dr. Huff read a letter of apology which he received from Dr. Robert Harder, SRS Secretary. Following considerable discussion, the Council directed the Executive Director to publish Dr. Harder's explanation in the various newspapers in Kansas, and to so advise Dr. Harder.

The Council approved the computerization of membership master files, provided the confidentiality of information could be secured and the mailing lists would not be sold by the computer company to outside companies.

The Executive Office was directed to study the cost involved in providing mailing services to various organizations. The uniform charge will be applied to all specialty societies on the basis of actual cost. Nonmember organizations will be charged at cost plus a certain percentage. The Auxiliary will be exempt from any charge.

The Council approved rental of an IBM memory typewriter for the Executive Office.

The Council was reminded that a recent House of Delegates resolution rescinded the obligation for mandatory fall meetings of House of Delegates. The Council agreed that there is no urgency for such a meeting at this time.

Dr. Yoder explained the Mediserve project and its current status, stating that the board has interviewed one applicant, granting him a loan.

Kansas Health Day will be held on September 23, 1977, with a panel presentation on physicians in rural areas in the morning, and setting up of booths by various communities to be viewed by students in the afternoon.

Mrs. Burnett stated that the faculty visitation project has temporarily slacked off, since Dr. Kugel resigned from the University. The Auxiliary is still asking for interested physicians for this program.

Dr. Godwin expressed concern about the lack of physicians serving on local HSAs. He asked the Medical Society to encourage physician participation in this activity.

Dr. Meyer announced a seminar on National Health Insurance, to be held at Battenfeld Auditorium, KUMC, October 8, 1977, 7:00-10:00 PM. He encouraged physician representation.

The Council was adjourned at 2:20 PM.

Duplicated Common Duct

(Continued from page 465)

Acknowledgment

Illustrations and editing by Phyllis A. Anderson, medical illustrator.

References

1. Goor, Daniel A. and Ebert, Paul A.: Anomalies of the biliary tree. *Arch Surg.* 104:302-309, 1972.

2. Casebolt, Buford T.: Duplication of the common bile duct. *Mo. Med.* 70:3, 1973.

3. Boyden, Edward A.: The problem of the double ductus choledochus (An interpretation of an accessory bile duct found attached to the pars superior of the duodenum). *Anat. Rec.* 55:71-91, 1933.

4. Mentzer, Stanley H.: Anomalous bile ducts in man. *JAMA* 93:1273-1277, 1969.

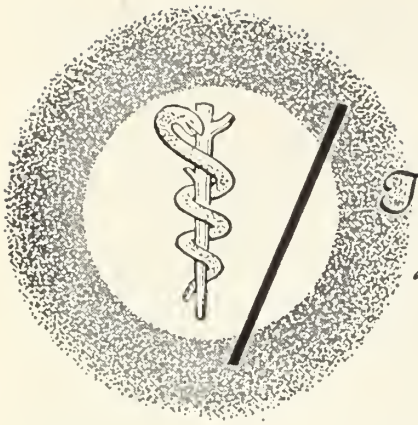
5. Kerr, H.: *Die Praxis der Gallenwege Chirurgie.* Munich: J. F. Lehmann, 1913.

6. Boyden, Edward A.: The accessory gall bladder—an embryological and comparative study of aberrant biliary vesicles occurring in man and domestic animals. *Am. J. Anat.* 38:2, 1926.

7. Flint, E. R.: Abnormalities of the right hepatic, cystic and gastroduodenal arteries, and of the bile ducts. *Br. J. Surg.* 10:509, 1924.

8. Eisendrath, Daniel N.: Anomalies of the bile ducts and blood vessels as a cause of accidents in biliary surgery. *JAMA* 71:864-867, 1918.

9. Michels, Nicholas A.: *The Blood Supply and Anatomy of the Upper Abdominal Organs.* Philadelphia; J. B. Lippincott Co., 1955.



The Kansas Press Looks at Medicine

The Doctor's Spouse

The Kansas University Medical School has begun a project at Garden City to lure young doctors to the western plains.

Ed Jenkins, an Air Force physician, will head a family practice residency at St. Catherine's Hospital. He'll supervise the teaching program and begin practice in the hospital's out-patient clinic. New doctors in the KU program would study the first year at the KU medical school at Kansas City or at Wichita. Then they would transfer to Garden City, Salina or other proposed centers with community doctors appointed as university faculty members.

It's a good idea, for three years. Then what?

The Kansas experience is that the young Welbys pack their bags and leave.

The premise of this and other schemes to attract doctors to rural Kansas is that if they study outside the metro centers, the desire to stay will be irresistible.

Sounds fine, if you know nothing about doctors' wives.

Student-doctors often marry women with similar educational backgrounds. They are a team: he, eager to hang the shingle; she, longing for work more challenging than keeping house. Few rural communities offer college-educated women jobs—besides teaching—that tax the brain or challenge the intellect.

For the doctor's wife, life on the prairie can be a bore.

One solution is to recruit women physicians. If they are married, let the spouse be a doctor, lawyer or banker.

Until the professors and Chambers of Commerce realize doctors often come in pairs seeking equal challenges, the success of any rural campaign to attract them will be temporary.—*Hutchinson News*, Sept. 26, 1977.

Shortage Is Real Enough

A survey in July showed that three out of 10 Kansans think a doctor shortage exists in the state even though 90 per cent responding say they have no serious problems in seeing a doctor.

We have no real argument with the 1,600 people chosen at random to speak for the 2.2 million Kansans. We are sure they said exactly what they thought researchers of the Central Research Corporation wanted to hear. We do object, however, to this typical hogwash being used—as it will be used—as the basis for developing area health care plans.

To counter Joseph Harkins, Kansas Department of Health and Environment, Kansans are not satisfied with the availability of medical care in the state. And, what's more important, they don't think government can help the situation. Regardless of what the poll says, the Kansans we heard are talking a different story.

There was one area of agreement, among those polled. Hospital and medical costs are too high and climbing too fast. The poll's figure was 66 per cent agreeing to the obvious.

Nearly all of those polled favored government control of medical and hospital care costs. We've heard nothing to verify this conclusion.

What we are seeing may be too provincial to be important. But we are seeing people who should have medical care, not getting it—because of cost, difficulty in seeing a doctor, or inconveniences of travel and time lost in being hospitalized in a "center" treatment area instead of their own town.

We are seeing those who know better neglecting preventive medicine such as annual physical examinations because of the cost, difficulty in seeing a doctor, and in finding a doctor who has time to point out problems and solutions.

In spite of dedication, training, ability, and modern scientific developments of the medical treatment and health care professions, Kansans we know are concerned about: The lack of doctors; high medical costs; lack of time for over-worked medical people to communicate with patients; the trend toward centralization which works severe problems on those living in small towns; and the attitude that money, science, and Big Brother in Washington is the cure-all for which the nation is waiting.—*Russell Daily News,* Sept. 6, 1977.

Phenothiazine Cardiomyopathy

(Continued from page 463)

3. Leestma, J. E. and Koenig, K. L.: Sudden death and phenothiazines. A current controversy. *Arch. Gen. Psych.* 18: 137-148, 1968.

4. Reinert, R. E. and Hermann, C. G.: Unexplained deaths during chlorpromazine therapy. *J. Nerv. Ment. Dis.* 131:435-442, 1960.

5. Richardson, H. L.; Graupner, K. I. and Richardson, M. E.: Intramyocardial lesions in patients dying suddenly and unexpectedly. *JAMA* 195:254-260, 1966.

6. Guillan, R. A. *et al.:* Electron microscopy. Sudden death in patients under phenothiazine therapy: Study of three cases. *J. Kans. Med. Soc.* 71:213-218, 1970.

7. Guillan, R. A.; Smalley, R. L. and Zelman, S.: Electrocardiographic and ultrastructural cardiac effects on phenothiazine in rabbits: A preliminary report. *Chest* 62:62-65, 1972.

8. Guillan, R. A.; Yang, C. P. and Hocker, E. V.: Multiple antibody screening of patients under high doses of phenothiazines. *J. Kans. Med. Soc.* 78:221-227, 1977.

9. Cummings, J. R.: Electrolyte changes in heart tissue and coronary arterial and venous plasma following coronary occlusion. *Circ. Res.* 8:865-870, 1960.

10. Jennings, R. B. *et al.:* Electrolyte alterations in acute myocardial ischemic injury. *Circ. Res.* 14:260-269, 1964.

11. DuRuisseau, J. P. and Mori, K.: Biochemical studies on experimental cardiopathy: Electrolytes in rat tissues. *Br. J. Exp. Pathol.* 40:250-254, 1959.

12. Manery, J. F. and Hastings, A. B.: Distribution of electrolytes in mammalian tissues. *J. Biol. Chem.* 127:657-676, 1939.

13. Technicon Auto Analyzer N Method File—N21b/II-Electrolyte determination, 1968.

14. Technicon Auto Analyzer N Method File—N-31 I/II-Serum Calcium (Fluorometer II), 1969

15. Chidsey III, C. A.: Calcium metabolism in the normal and failing heart. *Hosp. Pract.* 7:65-75, 1972.

16. Sonnenblick, E. H. and Stam, Jr., A. C.: Cardiac muscle: Activation and contraction. *Ann. Rev. Physiol.* 31:647-674, 1969.

17. Suko, J.; Vogel, J. H. and Chidsey, C. A.: Intracellular calcium and myocardial contractility. 3. Reduced calcium uptake and ATPase of the sarcoplasmic reticular fraction prepared from chronically failing calf hearts. *Circ. Res.* 27:235-247, 1970.

18. Ito, Y. and Chidsey, C. A.: Intracellular calcium and myocardial contractility. IV. Distribution of calcium in the failing heart. *J. Mol. Cell Cardiol.* 4:507-517, 1972.

19. Peachey, L. D.: The sarcoplasmic reticulum and transverse tubules of the frog's sartorius. *J. Cell Biol.* 25:209-231, 1965.

20. Lee, K. S.: Effect of cardiac glycosides on the sarcoplasmic reticulum as a possible mechanism of inotropic action. In *Factors Influencing Myocardial Contractility,* Tanz, R. D., Kavaler, F., Roberts, J. (Eds.). New York: Academic Press, 1968, pp. 519-531.

21. Langer, G. A.: The control of myocardial calcium exchange and its relation to contractility in the mammalian heart. In *Factors Influencing Myocardial Contractility,* Tanz, R. D., Kavaler, F., Roberts, J. (Eds.). New York: Academic Press, 1968, pp. 351-361.

22. Legato, M. J.; Spiro, D. and Langer, G. A.: Ultrastructural alterations produced in mammalian myocardium by variation in perfusate ionic composition. *J. Cell Biol.* 37:1-12, 1968.

23. Ebashi, S. and Endo, M.: Calcium ion and muscle contraction. *Prog. Biophy. Mol. Biol.* 18:123-183, 1968.

24. Weber, A.; Herz, R. and Reiss, I.: Nature of the cardiac relaxing factor. *Biochim. Biophys. Acta* 131:188-194, 1967.

25. Ganong, W. F.: *Review of Medical Psysiology,* ed. 3. Los Altos, California: Lange Medical, 1967, p. 14.

26. Langer, G. A.: The role of sodium in the regulation of myocardial contractility. *J. Mol. Cell Cardiol.* 1:203-207, 1970.

27. Woodbury, J. W.: Interrelationships between ion transport mechanisms and excitatory events. *Fed. Proc.* 22:31-35, 1963.

Collections

(Continued from page 474)

to the AMA Department of Practice Management for a small folder on *How to Prepare a Patient Information Booklet.*)

When a patient visits the doctor for medical attention he or she has at least two questions in mind: (1) What can the doctor do for me? and (2) What is it going to cost? Presumably there are some patients so affluent that cost is no factor; however, even those patients are often very conscious of the cost of the goods and services they purchase. Your average patient—*if he intends to pay*—wants to know the cost so that he can include it in his economic planning. The patient who doesn't intend to pay is not, of course, concerned with the amount of the charge.

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Rural Manpower

(Continued from page 477)

3. Verby, John E.: The Minnesota Rural Physician Redistribution Plan, *JAMA*, 238:960, 1977.
4. Graham, Robert and Roger, Jerry: A Handbook for Change, *Student American Medical Association*, 31, 32, 1973.
5. Hyner, James O. and Hyner, Donna M.: *Health Manpower Utilization, The Health Strategy Game*. C. V. Mosby Company, St. Louis, MO, p. 129.
6. Health Care Delivery in Rural Areas, Council on Rural Health, American Medical Association, 1972, p. 10.

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Final classification of the less than effective indications requires further investigation.

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Contraindications: Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: **Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired.** If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spironolactone is used concomitantly, determine serum K^+ frequently; both can cause K^+ retention and elevated serum K^+. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effect may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

Supplied: Bottles of 100 and 1000 capsules; Single Unit Packages of 100 (intended for institutional use only).

FOR LONG-TERM CONTROL OF HYPERTENSION.* SERUM K^+ AND BUN SHOULD BE CHECKED PERIODICALLY. (SEE WARNINGS SECTION.)

SK&F CO., Carolina, P.R. 00630

SK&F CO.
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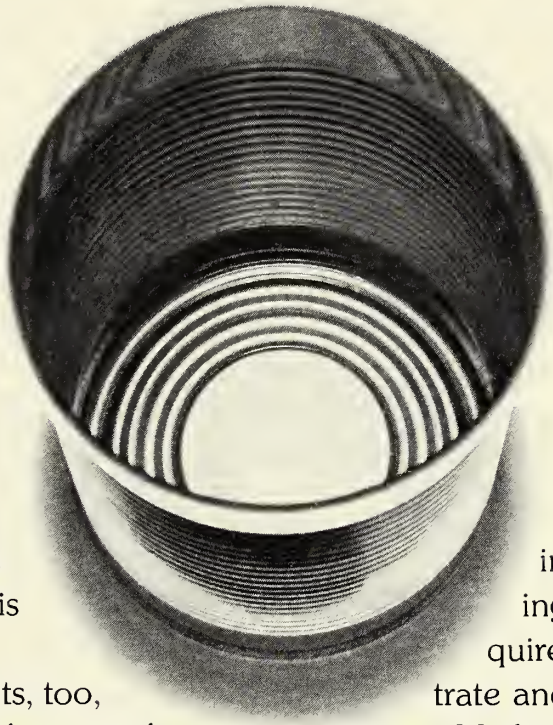
NOW a two-piece 14oz. can for Soyalac



A two-piece can means no soldered seam. No solder means no possibility of lead contamination from the container. Soyalac is the first infant formula with this packaging innovation.

There are improvements, too, in the formulation. Soyalac now has 25% more iron than known competitive hypoallergenic milk-free formulae. In fact, the entire formula has been slightly modified to reflect the current U.S. RDA levels set by the Food and Drug Administration.

Soyalac—formula for infants on regular feeding and for those who require milk-free diets; concentrate and single strength, ready-to-use. Made from the whole soybean. I-Soyalac concentrate, made from soy isolate, with no soy carbohydrates and **no corn products.**

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Loma Linda®

B.W.CO.® HAS PUT MORE POTENCY IN THE LINE

EMPRACET™ with Codeine Phosphate, 60 mg, No. 4 CIII

EMPRACET™ with Codeine Phosphate, 30 mg, No. 3 CIII

CONTRAINDICATIONS: Hypersensitivity to acetaminophen or codeine.

WARNINGS: Drug dependence. Codeine can produce drug dependence of the morphine type and may be abused. Dependence and tolerance may develop upon repeated administration; prescribe and administer with same caution appropriate to oral narcotics. Subject to the Federal Controlled Substances Act.

Usage in ambulatory patients. Caution patients that these products may impair mental and/or physical abilities required for performance of potentially hazardous tasks such as driving a car or operating machinery.

Interaction with other CNS depressants. Patients receiving other narcotic analgesics, general anesthetics, phenothiazines, tranquilizers, sedative-hypnotics, or other CNS depressants (including alcohol) may exhibit additive CNS depression; when used together reduce dose of one or both.

Usage in Pregnancy. Safe use is not established. Should not be used in pregnant patients unless potential benefits outweigh possible hazards.

PRECAUTIONS: Head injury and increased intracranial pressure. Respiratory depressant effects of narcotics and their capacity to elevate cerebrospinal fluid pressure may be markedly exaggerated in the presence of head injury, other intracranial lesions or a pre-existing increase in intracranial pressure. Narcotics produce adverse reactions which may obscure the clinical course of patients with head injuries.

Acute abdominal condition. These products or other narcotics may obscure the diagnosis or clinical course of acute abdominal conditions.

Special risk patients. Administer with caution to certain patients such as elderly or debilitated patients and those with severe impairment of hepatic or renal function, hypothyroidism, Addison's disease, or prostatic hypertrophy or urethral stricture.

ADVERSE REACTIONS: Most frequently include lightheadedness, dizziness, sedation, nausea, and vomiting; more prominent in ambulatory than in nonambulatory patients; some may be alleviated if patient lies down; others include: euphoria, dysphoria, constipation and pruritus.

DRUG INTERACTIONS: CNS depressant effect may be additive with that of other CNS depressants. See Warnings.

For symptoms and treatment of overdosage and full prescribing information, see package insert.

Introducing EMPRACET® c̄ CODEINE #4

Each tablet contains: codeine phosphate, 60 mg (1 gr) (Warning—may be habit-forming); and acetaminophen, 300 mg. CIII

Our new non-aspirin/codeine analgesic for moderate to severe pain.

New peach-colored Empracet c̄ Codeine #4 offers a potent alternative for patients in whom aspirin is not indicated.

Unlike compounds containing oxycodone which afford comparable analgesia, new Empracet c̄ Codeine #4 gives you CIII prescribing convenience—up to 5 refills in 6 months at your discretion (where state law permits). And, prescribing by telephone is permissible in most states. Moreover, new Empracet c̄ Codeine #4 has less addiction potential than does oxycodone.

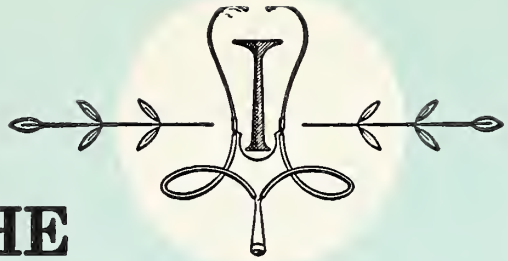
For those of your patients requiring a less potent analgesic, non-aspirin Empracet® c̄ Codeine #3 provides effective relief of moderate pain.

Burroughs Wellcome Co. makes codeine combination products. You make the choice.

Wellcome

Burroughs Wellcome Co.
Research Triangle Park
North Carolina 27709

The Hertzler Clinic



THE Journal OF THE Kansas Medical Society

Journal.

DECEMBER
1977

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NO. XII

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Volume LXXVIII, Number 12—December, 1977

The JOURNAL of the KANSAS MEDICAL SOCIETY

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When pain complicates acute cystitis*

Azo Gantanol®

Each tablet contains 0.5 Gm sulfamethoxazole and 100 mg phenazopyridine HCl

for the pain for the pathogens

□ **Early relief of painful symptoms** such as burning and pain associated with urgency and frequency.

□ **Effective control of susceptible pathogens** such as *E. coli, Klebsiella-Aerobacter, Staph. aureus, Proteus mirabilis* and, less frequently, *Proteus vulgaris.*

□ **Appropriate antibacterial therapy:** up to three days therapy with Azo Gantanol, then 11 days with Gantanol® (sulfamethoxazole), 0.5 Gm tablets.

*Nonobstructed; due to susceptible organisms

Before prescribing, please consult complete product information, a summary of which follows:

Indications: In adults, urinary tract infections complicated by pain (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms (usually *E. coli, Klebsiella-Aerobacter, Staphylococcus aureus, Proteus mirabilis* and, less frequently, *Proteus vulgaris*) in the absence of obstructive uropathy or foreign bodies.

***Note:* Carefully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response; add aminobenzoic acid to follow-up culture media. The increasing frequency of resistant organisms limits the usefulness of antibacterials including sulfonamides.** Measure sulfonamide blood levels as variations may occur; 20 mg/100 ml should be maximum total level.

Contraindications: Children below age 12; sulfonamide hypersensitivity; pregnancy at term and during nursing period; because Azo Gantanol contains phenazopyridine hydrochloride it is contraindicated in glomerulonephritis, severe hepatitis, uremia, and pyelonephritis of pregnancy with G.I. disturbances.

Warnings: Safety during pregnancy not established. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported and early clinical signs (sore throat, fever, pallor, purpura or jaundice) may indicate serious blood disorders. Frequent CBC and urinalysis with microscopic examination are recommended during sulfonamide therapy.

Precautions: Use cautiously in patients with impaired renal or hepatic function, severe allergy, bronchial asthma; in glucose-6-phosphate dehydrogenase-deficient individuals in whom dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

Adverse Reactions: *Blood dyscrasias* (agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia); *allergic reactions* (erythema multiforme, skin eruptions, Stevens-Johnson syndrome, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis); *G.I. reactions* (nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis); *CNS reactions* (headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia); *miscellaneous reactions* (drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L. E. phenomenon). Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia. Cross-sensitivity with these agents may exist.

Dosage: Azo Gantanol is intended for the acute, painful phase of urinary tract infections. *Usual adult dosage:* 2 Gm (4 tabs) initially, then 1 Gm (2 tabs) B.I.D. for up to 3 days. If pain persists, causes other than infection should be sought. After relief of pain has been obtained, continued treatment with Gantanol (sulfamethoxazole) may be considered.

Note: Patients should be told that the orange-red dye (phenazopyridine HCl) will color the urine.

Supplied: Tablets, red, film-coated, each containing 0.5 Gm sulfamethoxazole and 100 mg phenazopyridine HCl—bottles of 100 and 500.

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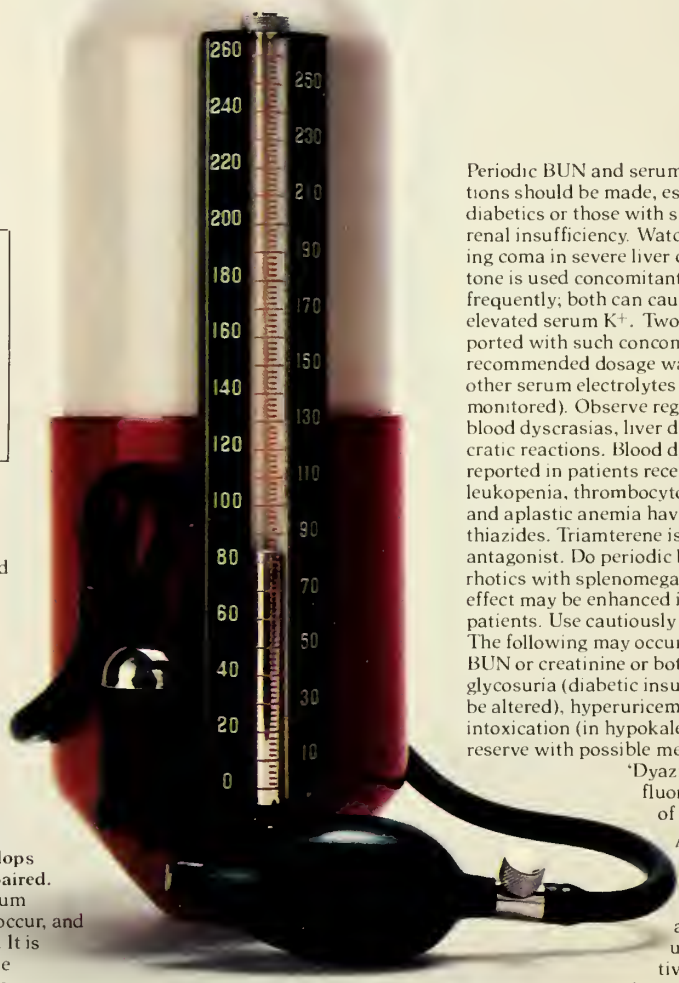
DYAZIDE®

Each capsule contains 50 mg. of Dyrenium® (triamterene, SK&F Co.) and 25 mg. of hydrochlorothiazide.

MAKES SENSE



Before prescribing, see complete prescribing information in SK&F Co. literature or PDR. A brief summary follows:

* **Warning**
This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

* **Indications:** When the combination represents the dosage determined by titration: Adjunctive therapy in edema associated with congestive heart failure, hepatic cirrhosis, the nephrotic syndrome. Corticosteroid and estrogen-induced edema, idiopathic edema; hypertension, when the potassium sparing action of triamterene is warranted. (See Box Warning.) Routine use of diuretics in healthy pregnant women is inappropriate; they are indicated in pregnancy only when edema is due to pathological causes.

Contraindications: Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spironolactone is used concomitantly, determine serum K^+ frequently; both can cause K^+ retention and elevated serum K^+. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effect may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

Supplied: Bottles of 100 and 1000 capsules; Single Unit Packages of 100 (intended for institutional use only).

FOR LONG-TERM CONTROL OF HYPERTENSION.* SERUM K^+ AND BUN SHOULD BE CHECKED PERIODICALLY. (SEE WARNINGS SECTION.)

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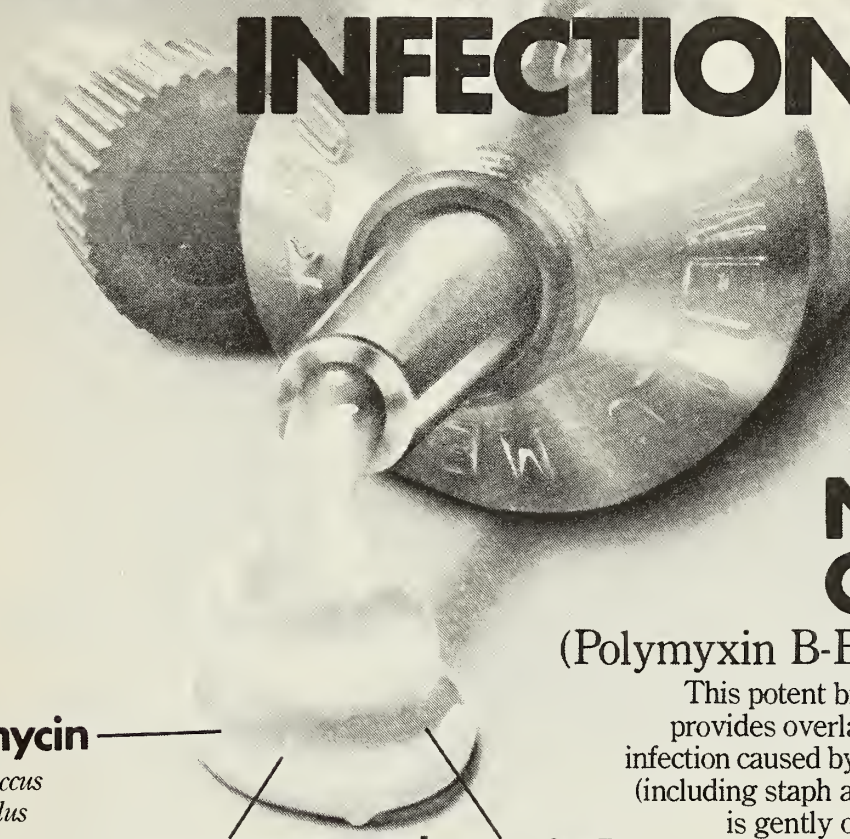
THREE-IN-ONE THERAPY AGAINST TOPICAL INFECTION



Neosporin® Ointment

(Polymyxin B-Bacitracin-Neomycin)

This potent broad-spectrum antibacterial provides overlapping action to help combat infection caused by common susceptible pathogens (including staph and strep). The petrolatum base is gently occlusive, protective and enhances spreading.

Neomycin

Staphylococcus
Haemophilus
Klebsiella
Aerobacter
Escherichia
Proteus
Corynebacterium
Streptococcus
Pneumococcus

Bacitracin

Staphylococcus
Corynebacterium
Streptococcus
Pneumococcus

Polymyxin B

Pseudomonas
Haemophilus
Klebsiella
Aerobacter
Escherichia

In vitro overlapping antibacterial action of Neosporin® Ointment (polymyxin B-bacitracin-neomycin).

Wellcome

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Research Triangle Park
North Carolina 27709

Neosporin® Ointment

(Polymyxin B-Bacitracin-Neomycin)

Each gram contains: Aerosporin® brand Polymyxin B Sulfate 5,000 units; zinc bacitracin 400 units; neomycin sulfate 5 mg (equivalent to 3.5 mg neomycin base); special white petrolatum qs; in tubes of 1 oz and 1/2 oz and 1/32 oz (approx.) foil packets.

WARNING: Because of the potential hazard of nephrotoxicity and ototoxicity due to neomycin, care should be exercised when using this product in treating extensive burns, trophic ulceration and other extensive conditions where absorption of neomycin is possible. In burns where more than 20 percent of the body surface is affected, especially if the patient has impaired renal function or is receiving other aminoglycoside antibiotics concurrently, not more than one application a day is recommended.

When using neomycin-containing products to control secondary infection in the chronic dermatoses, it should be borne in mind that the skin is more liable to become sensitized to many substances, including neomycin. The manifestation of sensitization to neomycin is usually a low grade reddening with swelling, dry scaling and itching; it may be manifest simply as failure to heal. During long-term use of neomycin-containing products, periodic examination for such signs is advisable and the patient should be told to discontinue the product if they are observed. These symptoms regress quickly on withdrawing the medication. Neomycin-containing applications should be avoided for that patient thereafter.

PRECAUTIONS: As with other antibacterial preparations, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

ADVERSE REACTIONS: Neomycin is a not uncommon cutaneous sensitizer. Articles in the current literature indicate an increase in the prevalence of persons allergic to neomycin. Ototoxicity and nephrotoxicity have been reported (see Warning section).

Complete literature available on request from Professional Services Dept. PML.

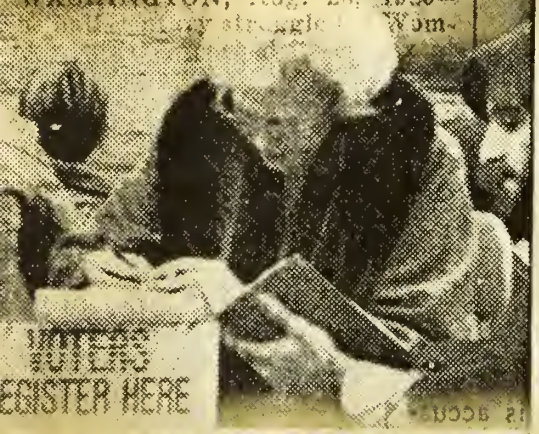
COLBY PROCLAIMS WOMAN SUFFRAGE

Signs Certificate of Ratification at His Home Without Women Witnesses.

MILITANTS VEXED AT PRIVACY.

Wanted Movies of Ceremony, But Both Factions Are

WASHINGTON, Aug. 26, 1920—[illegible] Wom-



Social Security Bill Is Signed; Gives Pensions to Aged, Joble

Roosevelt Approves Message Intended to Benefit 30,000, Persons When States Adopt Cooperating Laws—He Ca the Measure 'Cornerstone' of His Economic Program.

WASHINGTON, Aug. 14, 1 The Social Security Bill, prov a broad program of unemploy insurance and old age pen and counted upon to benefit 20,000,000 persons, became la day when it was signed by I dent Roosevelt in the presen those chiefly responsible for ting it through Congress.

Mr. Roosevelt cal[illegible] me "the cornerstone [illegible] stru which is being [illegible] me[illegible]s c[illegible]mple ri[illegible] to [illegible]

SENATE APPROVES 18-YEAR OLD VOTE IN ALL ELECTIONS

Amendment to Constitution is Sent to House, Where Passage is Expected

WASHINGTON, March 10, 1971—The Senate approved today, 94 to 0, and sent to [illegible]

TRUMAN CLOSES TED NATIONS CONFEREN ITH PLEA TO TRANSLATE CHARTER INTO DEEDS

NEW WORLD HOPE

President Hails 'Great Instrument of Peace,' Insists It Be Used

HISTORIC LANDMARK

Meeting Gives Standing Ovation as Executive Pictures Peace Gain

"If we fail to use it," he declared to the solemn final meeting of the delegates, 'we shall betray all of those who have died in order that we might meet here in freedom and safety to create it.'

"If we seek to use it selfishly—for the advantage of any one nation or any small group of nations—we shall be equally guilty of that betrayal."

Fervent Interpolation

The President, speaking in the auditorium of the War Memorial Opera House, built in memory of sons of the Golden Gate city who gave their lives in the first World War, in which he himself served, seemed to give unconscious expression to the solemn feeling of the occasion when, at the outset of his speech, he interpolated the words, half a hope, half a prayer:

"Oh, what a great day this can be in history!"

Just before the plenary session the President accompanied the

OL SIGNE the Draf Ends No

WASHINGTON, Jan. 27, 1973—"With the signing of the peace agreement in Paris today, and after receiving a report from the Secretary of the Army that

PATIENT PACKAGE INSERTS: A CONCEPT WHOSE TIME HAS COME?

The consumer's right to know is an irreversible and desirable trend of the Seventies. It extends, and properly, to a patient's right to know more about his or her prescription medications. One way, gaining favor, is through patient package inserts. Wisely-prepared and properly distributed when medically indicated, they could markedly improve patient knowledge and drug therapy—laudable goals by anyone's standards.

The PMA endorses these goals and will work with government, the health professions and consumers to achieve them.

The Advantages

The concept holds promise of benefits: better patient understanding of the product prescribed, better adherence to the treatment plan, and more awareness of possible side reactions.

Every doctor has had patients who fail to finish antibiotic regimens because they feel better. Some patients assume that if one tranquilizer or analgesic is good, two may be twice as good. Still others fail to report dizziness while on antihypertensive therapy —and so on.

Problems like these might arise less often if the patient received written information in addition to verbal instructions. Some studies suggest that patients are more receptive to such materials, and they more often understand the verbal instructions and follow them, when inserts are used.

The Disadvantages

There are also some potential problems. Obviously, the inserts must be clearly phrased, without extraneous or complex detail. How much information is enough? How can it be kept current? Should all patients receive the same information? Should inserts be included with all drugs? Should only potential problems be listed or are patients better off with a "fair balance" presentation that describes usefulness as well as drawbacks?

These and similar questions require answers, since model inserts have yet to be properly developed and tested. Despite the need for these studies, the FDA is proceeding prematurely with inserts on selected products. We think the Congress is the only place where the matter can be given the proper legal status and direction, particularly since it represents a conceptual change in the legal, medical and social framework of the nation's prescription drug information system.

The Solution

The PMA believes that carefully-devised pilot studies of various kinds of inserts are needed. They should be developed and implemented with full participation by doctors, pharmacists, consumers, communications experts and the drug industry. Such studies will provide reliable pathways to follow, so that inserts will be useful aids to medical practice.

And particularly we think that you should be closely involved in this debate and in these studies and decisions. Otherwise, people with less experience and qualifications may control the purposes, content and use of a tool with considerable promise for improved patient care. It could make a difference in your practice tomorrow, and more importantly, in the health of your patients.

PMA
THE PHARMACEUTICAL MANUFACTURERS ASSOCIATION
1155 FIFTEENTH ST., N. W., WASHINGTON, D. C. 20005

Auxiliary News

Since this issue of THE JOURNAL focuses on the Hertzler Clinic in Halstead, celebrating its 75th year of service, I would like to dedicate this column to the physicians of the Clinic, both past and present.

Being a graduate of the Halstead Hospital School of Nursing and a member of the last class of "Grandpa's Girls" (Dr. Hertzler's term for his student nurses), I am intensely loyal to the physicians who taught me to be a nurse. I'm glad that they gave time to teach in the classroom, on the floors, in the operating room and wherever a student had questions. Their investment, coupled with the excellent efforts of the Sisters, produced good nurses who respected physicians as captains of the health care team.

Time has changed the roster of physicians with only three remaining from thirty years ago. New clinic and hospital buildings have replaced the old. The school of nursing was discontinued in 1966; however, students from Hesston College receive their clinical training in the hospital. The numbers of externs, interns, and residents of Dr. Hertzler's era have diminished to a resident or medical student now and then, but time has not changed the principal goal of quality care for the individual patient for a reasonable fee.

Much of the success of the Hertzler Clinic can be attributed to its location. The community of Halstead with nearly 2,000 citizens, located near the center of the state, provides an easy style of living with quick access to the cultural, shopping, and educational advantages of urban areas. The people of Halstead have provided essential quality schools, churches and city services, an attractive residential and growing business environment, and warm hospitality to visitors and residents alike.

During the past few years of traveling for the Auxiliary, within Kansas and over the country, I haven't had to explain where I'm from—at least to those over 40 years of age. The respectful comments made tell me that the professional integrity of the Hertzler Clinic prevails. It is a credit to the medical family and to the great state of Kansas.

At the Summer Conference of the Auxiliary, William T. Tinker, Wichita attorney, spoke to physicians' spouses about some of the legal problems of the medical profession. He spoke of the great divergence of public expectations and attainable reality; people expect too much and the advances of medicine bring built-in dissatisfaction factors.

It was Mr. Tinker's assertion that the front office, the receptionist and the people making first contact with patients, have a lot to do with litigation problems. Many a claim against a doctor or hospital has its genesis in the patient feeling that no one will pay attention to him. Many claims against hospitals and physicians begin when a concerned and frightened individual seeking professional help is confronted by a cold, remote voice on the telephone or an unfriendly receptionist in the office. Before the patient meets the physician, the stage is set for an unpleasant episode unrelated to the professional care received from the physician.

A casual or careless remark made by physician, spouse or office personnel, picked up and misunderstood, can be another source of public disenchantment.

Our speaker seemed to be saying that much of the public attitude toward physicians is based on feelings, both real and imagined. Attitudes and manners communicated by staff may not correspond with the quality of professional care given, but the initial contact may be the most impressive. The contact, in some instances, may be made by the physician's spouse or family members who use poor telephone manners.

Communication of attitudes continues outside the office by both physician and family. The way the family feels about the people of the community is reflected in actions, activities, and involvements. The warm and loving family is considerate of the economic and cultural situation of the citizens. It is supportive and involved in the life of the community, not posturing affluence or remaining aloof and separate.

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SOLVED: THE RIDDLE OF HEART ATTACKS, by Broda O. Barnes, M.D., Ph.D., Robinson Press, Inc., Ft. Collins.

Ponce de Leon with his fountain of youth, Cleopatra with her milk baths, and Dr. Barnes with thyroid all appear to be in pursuit of the same objective, i.e., everlasting life, health, and happiness.

The author claims positive results from thyroid treatment in preventing the iatrogenic effects of cortisone and postponing the atherosclerotic effects of diabetes; the running commentary suggests its utilization will cure an almost unlimited spectrum of ailments including tired housewife syndrome, psoriasis, lupus erythematosus, amenorrhea, metrorrhagia, menometrorrhagia, uremia, pyelitis, vaginitis, pinkeye, styes, 80 per cent of hypertension, tonsillitis, abortion, toxemia, ovarian cysts, fibroid tumors of the uterus, crib death, hyperkineticism in children of type A personality, suicide, fatigue, and lethargy. Vitamin E is suggested as a panacea for problems ranging from falling hair to fallen arches. The book is easy to read, and patients will soon be clamoring for these elixirs.

The statement that 20 years of office practice have revealed no need for D & Cs raises the question of diagnosis of cancer of the uterus. Can this affliction also be prevented by thyroid treatment? Ob-Gyn people might frown on this theory.

In a strong opinion concerning thyroid replacement, the author's attack on polyunsaturated fats is reminiscent of the FDA's attack on cyclamates and saccharin.

The book has value for physicians as a reminder to give wider consideration to hypothyroidism, and for the excellent review of the history of medicine. The research work and autopsy review done in Vienna are outstanding. Nevertheless, this well-written documentary on heart attacks, with a cure-all for most diseases, must be taken with a grain of salt. The irony of it all—this reviewer just might try it.—*J.T.G.*

PLEASE REMEMBER ME, by Mari Brady. Doubleday & Company, New York, 1977. 104 pages. $5.95.

"Sometimes letting go is the greatest act of love." This poignant statement made to the mother of a dying teenage cancer patient encapsulates the emotional impact of "Please Remember Me."

Mari Brady, a young recreation aide at Sloan-Kettering Cancer Center, effectively utilizes words as stepping stones into a world dominated by cancer. Primary focus is Graham Banks, who comes to the clinic as a mischievous 15-year-old; one year later he goes home with tremendous courage and maturity to die. Although the book's reconstructed conversations give intimate glimpses of the physical and emotional metamorphosis of the cancer patient, they also afford rare insight into the helpless desperation of those who suffer second-hand as they struggle to reconcile themselves to the inevitable.

In significant conversation near the end, Mari shares with Graham the philosophy of her brother—himself a cancer victim—to whom the book is dedicated: "(Life is) a series of one person touching another—learning and giving to others what we've been taught. Love has a certain responsibility and so does care. If we keep it to ourselves and refuse to share it, then those experiences don't amount to much; but if we pass it along, then everything that we stand for as people goes on long after we do. . . . It's kind of like a chain reaction, and once it's started it doesn't stop. What's real in a person can never be destroyed by anything."

The following day, as Graham left the clinic for a Christmas visit home from which he never returned, his last words to Mari were, "Please remember me." With this appealing book, written simply, yet with a depth that reflects the intensity of her experience, Mari Brady has justified Graham's trust.—*E.B.*

(Continued on page 535)

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***Usage in Pregnancy:* Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported, should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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Scientific ARTICLES

Congenital Eye Defects

Congenital Miosis Associated With Sex-Linked Congenital Cataracts

WILMER A. HARMS, M.D., ***Halstead***

CONSPICUOUS but unusual ocular pathology associated with other constitutional symptomatology is of interest to every physician. Frequently this may offer an opportunity for hereditary investigation in a manner not afforded by animal experimentation. Systemic diseases associated with ocular manifestations are almost innumerable; therefore, an alert and competent ophthalmologist is in a unique position to be of real diagnostic assistance to other medical disciplines.

With the ophthalmic literature and texts already crowded with eponymical disease syndromes, this paper has no designs to ferret out a new syndrome but only to report some interesting findings which have not been fully described previously or developed as associated with the disease entity to be described and discussed in the context of this paper. A large number of the hereditary diseases, signs, and symptoms of various syndromes are reported in foreign languages. Although some recent papers have not yet been translated, comprehensive research of relevant literature of the past two decades has yielded much pertinent information from the work and findings of investigators outside the English-speaking countries.

Case Report

A white male infant was first seen at age 5 months. The parents stated that cataracts had been noticed when the child was four days old but they had neglected to bring him in for an eye examination.

This youngster had been born three weeks prematurely weighing 3.46 kg (7 lb 1 oz). Even though he reportedly was eating well, his weight at the time of the first clinic visit was only 4.82 kg (10 lb 10 oz). Both parents and an older sister were in apparent good health; two older brothers, one of whom died ten hours after birth, had been born with cataracts.

Congenital cataracts have been noted to be associated with miosis. Two brothers, both under age 8 months, had these two associated findings. Bilateral optical iridectomies were done; pathological examination of the iris tissue confirmed absence of dilator muscle in all four eyes. Genetic female carriers, identified in the pedigree, were found to have punctate lenticular opacities.

The patient was admitted to the hospital for an extensive examination and evaluation. On physical examination, he appeared asthenic and both mentally and developmentally retarded. He had bilateral leukocoria but he would follow a moving light and appeared to fixate binocularly. The pupils were round and equal but miotic, reacting only slightly to light. They failed to dilate with 10 per cent Neosynephrine but dilated up

Address reprint requests to Dr. Harms, The Hertzler Clinic, Halstead, KS 67056

to 5 mm with 1 per cent Mydriacyl. After dilation, white nuclear opacities in the embryonal portion of the lens were noted bilaterally, being very dense centrally but becoming less dense peripherally. The extreme periphery of the lenses was entirely clear. The eyes were considered to have minimal epicanthal folds and a slight mongoloid slant. Nystagmus of intermittent searching type was noted. Ophthalmoscopically, the discs and vessels appeared to be normal but the maculae were not observed due to the nuclear cataracts. The tensions were soft to touch.

Other features of the physical examination included some frontal bossing, micrognathia, a high arched palate, a short sternum as compared to the abdomen, hyporeflexia and hypotonia of the skeletal musculature, and an asymptomatic umbilical hernia. Although the cardiac findings were normal, an EKG was done and interpreted as consistent with a slight left axis deviation with probably left ventricular hypertrophy. A bone survey by x-ray showed a bone age approximately that of a newborn infant, and no evidence of rickets or scurvy. The chest x-ray was within normal limits except for an incidental finding that the lower lumbar vertebral bodies were somewhat taller than one would expect, and suggestive of an underlying neurologic process.

All the urine specimens submitted for analysis showed good power of concentration. Most of them had protein 2+, and a few casts; the pH was usually alkaline or slightly acid. Intravenous pyelograms were interpreted as normal. Complete blood counts were also within normal limits except for the hemoglobin count, which averaged 10 gm/100 ml, with hematocrit reading of 30 per cent. The serology was non-reactive. The serum calcium level was slightly elevated and serum phosphorus was twice the normal level.

Upon completion of the evaluation, the child was taken to surgery for superior optical iridectomies with inferior sphincterotomies on both eyes, which were successfully completed. The iris specimens were submitted for pathological examination and reported as showing a double layer of the pigment epithelium with an absence of the iris dilator muscle.

Family History

Of particular interest is this patient's family history. When first seen in the clinic, a strong similarity was noted in both the appearance and the physical findings of this patient to those of his older brother who had been observed and treated only ten months earlier at the age of 7 months. Both had bilateral nuclear cataracts involving the embryonal nucleus. It was concluded, therefore, that the condition had to be congenital. The mother reported a family history of congenital cataracts affecting only male infants for at least three generations. It was learned that a diagnosis of Lowe syndrome had been made in the case of three males who were cousins to our patient.

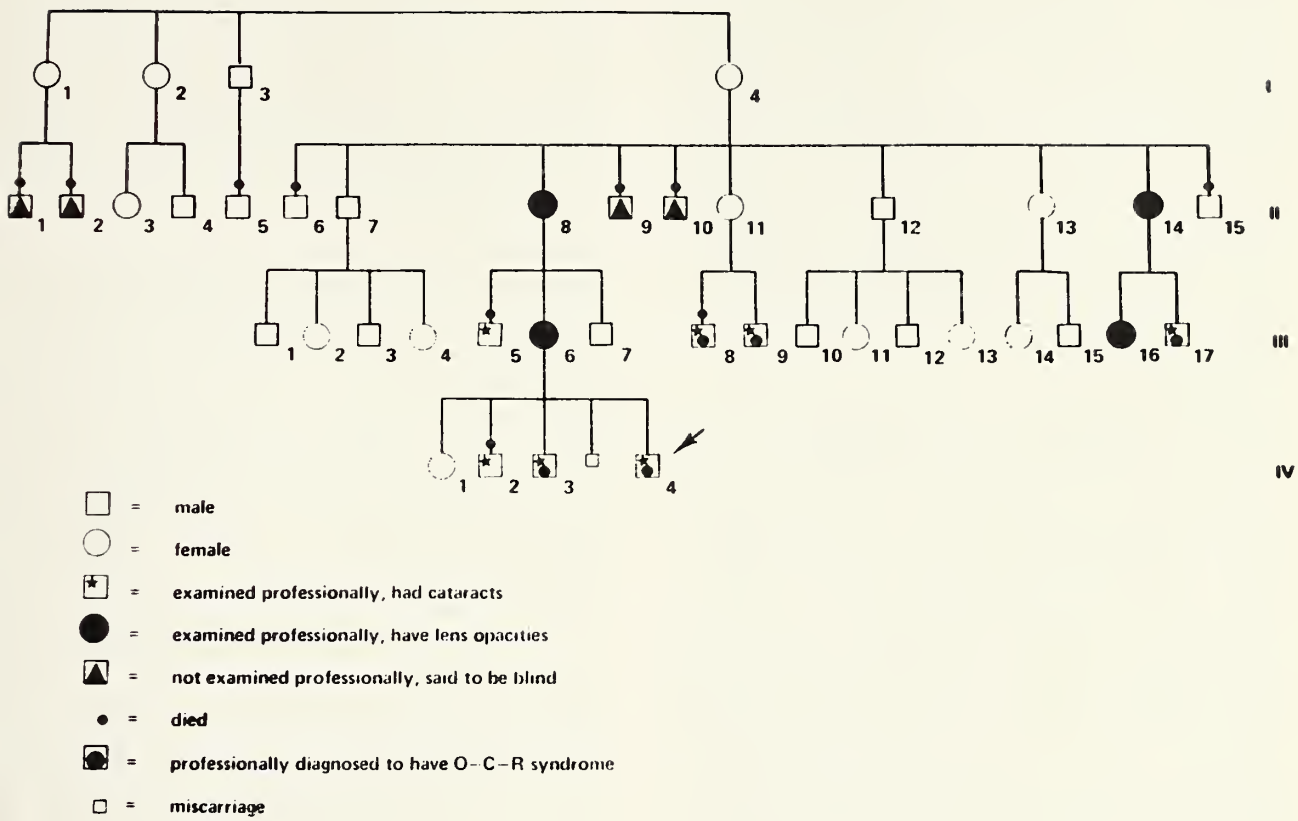
In order to establish the validity of this family history and also to uncover any other data that could be relevant to this study, a personal visit was made to the community where a number of the involved family members lived. Several family members, as well as their family physicians, were interviewed and medical and hospital records were checked. With this information, together with that obtained through correspondence, the family pedigree appearing in *Figure 1* was developed. This is believed to be fairly accurate for the second, third, and fourth generations. The possibility of consanguinity in regard to the great grandparents to the propositus is considered to be very remote. The informant who seemed to be most accurately conversant with the occurrence of congenital cataracts vaguely recalled having heard her mother mention that two baby boys, members of the first generation, had been considered to be "blind" before their death.

Hereditary Aspects

The pedigree presents a dilemma, previously encountered by other investigators, in classifying or designating genetic expressivity. Results of a chromosome study were normal, indicating that the defective trait lies within the genes. Obviously sex-linked, does the trait have autosomal or gonosomal transmission? Congenital cataracts present themselves in a gamut of disease syndromes. The genetic nature of many types of congenital cataracts has been recognized for almost two and one-half centuries, but it is rather enigmatic that very little is known of the genetic influences. In reviewing the literature it was noted that in a number of papers the authors were hesitant to commit themselves to the idea of genetic sex-linkage of the pedigree. Walsh and Wegman[1] reported a pedigree of cataracts manifested among the "We-Sorts," a tri-racial group in southern Maryland, and referred to it as "sex-limited" even though there were lens changes noted in females.

Our first systematized knowledge of congenital cataracts comes from Vogt[2] classical studies with the slit lamp, which proved that the form and site of the opacities often tended to be identical in the same pedigree, a consideration which applied to juvenile, presenile, and senile opacities of the lens. In addition, cataract changes frequently accompany other congenital anomalies of the eye, and in these cases they are usually transmitted in accordance with the mode of the major anomaly.

FAMILY PEDIGREE



I-4. Great-grandmother of the propositus, examined by an ophthalmologist and found not to have cataracts.

II-1 and 2. Died in early childhood; had cataracts.

II-5. Killed in an auto accident at age 20 years; had normal eyes.

II-6. Died shortly after birth; no helpful information obtained.

II-8. Grandmother of the propositus, examined professionally and found to have punctate opacities in the lenses.

II-9 and 10. Died under the age of 1 year; "blind."

II-14. Professionally examined; punctate opacities in the lenses.

II-15. Died at age 4 years; was mentally retarded, had hydrocephalus and impaired renal function; able to see.

III-1. Wearing very strong glasses; "blind" without them.

III-5. Had congenital cataracts, was mentally retarded, died at age 3 months with congenital heart disease.

III-6. Mother of the propositus, age 23 years. Professionally examined and found to have punctate opacities in the lenses. Normal vision.

III-8. Age 21 mos.; had 2 goniotomy procedures of the left eye for congenital glaucoma, had nystagmus, both lenses showed polar cataracts, phthisis bulbi of the right eye; mentally retarded, hypotonia, poor weight gain, recurrent respiratory tract infections, cryptorchidism, decreased hemoglobin levels, urine slightly acidic pH with albuminuria in each specimen; died at age 17 years with cerebral hemorrhage.

III-9. Now age 18 years; mentally retarded, cataracts of both eyes, nystagmus, miotic pupils dilate poorly, unable to walk or talk; had albuminuria and slightly acid urine pH; had needling procedures for cataracts of both eyes; has convulsions.

III-17. Age 7 years; mentally retarded, has had discission and aspiration procedures for congenital cataracts in both eyes, professionally examined and diagnosed as having oculocerebrorenal syndrome.

IV-1. Older sister of the propositus; has punctate lens opacities like her mother and grandmother.

IV-2. Oldest brother of the propositus; died 10 hours after birth due to congestive heart failure; had cataracts.

IV-3. Brother of the propositus and 14 months older. Had nuclear lens opacities at age 3 mos., miotic pupils responding poorly to mydriatics, searching type nystagmus. Was developmentally and mentally retarded at age 6 mos., hypotonic, possibly deaf; albuminuria. Admitted to hospital at age 7 mos. for optical iridectomies, noted to have decreased hemoglobin levels, IVP, chest and skull x-rays were taken and reported as normal with a bone age compatible with age 3 mos. Diagnosed as having the OCR syndrome.

IV-4. The propositus; refer to Case Report.

Figure 1

The clinician's approach to a given set of signs and symptoms of an apparent gene-influenced syndrome is to fit it into what has previously been accepted as the spectrum for that specific entity. If this does not work, then it appears obvious that an attempt toward establishing a new syndrome is necessary. Geneticists, on the other hand, might attempt to explain such individual variation as a result of the influences of the subject's gene milieu in which the mutant gene responsible for the syndrome exerts its action. Since no gene acts by itself, the mutant gene is intimately influenced by the specific gene pool possessed by the affected person.[3]

OCR Syndrome

In 1952, Charles Lowe and co-workers[4] presented the clinical histories of three youngsters who had amino-aciduria, albuminuria, and decreased renal ability to fabricate ammonia, associated with renal rickets. In addition, these patients also manifested mental retardation, systemic acidosis, retarded growth and development, hyporeflexia, hypotonia, recurrent fever, hydrophthalmos, and congenital cataracts. As known at the time, this condition represented an unreported syndrome which apparently was non-familial. By giving these children alkali in the form of calcium and sodium salts, along with vitamin D, the skeletal condition improved. The investigators postulated that the pathogenesis[4] was due to: (1) an error in metabolism producing excess organic acids for excretion; and (2) impaired renal tubular function.

Seven years later, Schoen[5] reported a case of double ovum twins in whom most of the findings reported by Lowe and co-workers were present. While both cataracts and glaucoma were present in these twins, numerous other anomalous conditions were suspected and Dr. Schoen proposed that the term, Lowe syndrome, refer only to a group of defects found in the reported patients, that the disease was not familial, and that all defects were probably developmental abnormalities.[5]

A real breakthrough in the genetic aspect of this syndrome was accomplished by Richards, *et al.*[6] in 1965. Their review of the literature produced 23 children demonstrating a disease complex consistent with Lowe syndrome. Eight new cases were added from their own studies. All eight cases were males and manifested developmental and mental retardation, hypotonia, hyporeflexia, cataracts, and rickets. In addition, seven of the eight had cryptorchidism, four had congenital glaucoma, and two experienced generalized convulsions. The fact that these were all males prompted Richards and his co-workers to suspect a genetic basis in the transmission of the defect.

An examination of the various pedigrees produced three mothers and one maternal grandmother with cataracts; four mothers, two maternal grandmothers, one maternal grand aunt, and three female children were found to have numerous punctate opacities in the crystalline lenses. The lack of recognizable clinical manifestation in females initially suggested a recessive gene, but this opinion had to be revised when slit lamp examinations of the eyes revealed the lens opacities in the female carriers.

A review of seven papers[1-7] dealing with Lowe syndrome revealed that no two of them reported the same findings without some variation. Therefore, a composite was constructed of the various characteristics recorded in the case reports *(Figure 2)*. In this composite, the original features reported by Lowe are underlined. In substance, these represent only two-thirds of the characteristics when considering the entire composite. This portrays increasing evidence that each syndrome presents an interesting range of expressivity, possibly establishing what may be construed as a continuum of signs and symptoms. François[3] has succinctly stated that a syndrome as a clinical entity does not present a series of symptoms involving one single organ or one single system, but is characterized by an association of dissimilar anomalies without any apparent interrelationship since they may involve various organs, various systems, and various tissues at one time. Perhaps it would be semantically more correct if the term—Lowe syndrome—could be abrogated in favor of the more appropriate oculocerebrorenal (OCR) syndrome, still representative of Lowe's original postulates[4] but in which the main thrust appears to be more in the manifestations of the central nervous system, with the ocular and renal effects being secondary.

This synoptic summary of the OCR syndrome is presented as proof that it is the basic disease complex of most of the affected members of the pedigree in question. The focal point of this paper—congenital miosis—appeared to be a minor finding in the case studies reported by other investigators. Earlier it was noted that the cataracts in the affected male children are nuclear and centrally located bilaterally. Consequently, with these constricted pupils, if the cataracts are sufficiently dense at birth, or within the first several months, they will interfere with retinal development and result in the so-called blindness noted by most authors, although glaucoma in those who developed it could also be responsible. In those affected individuals where attempts were made to provide some potential for vision, appropriate cataract procedures were performed, usually with unsatisfactory results. In the treatment of the propositus and his older brother, we elected to do optical iridectomies by making two sphincterotomies

CHARACTERISTICS COMPRISING LOWE SYNDROME

A. Eye
1. *Congenital cataracts* (nuclear or polar)
2. *Glaucoma*
3. *Blindness* (due to No. 1 and/or No. 2)
4. *Nystagmus,* searching
5. Congenital miosis and poor response to mydriatics
6. Tendency towards a divergent strabismus

B. Central Nervous System
1. *Hyporeflexia*
2. Hyperactivity and irritability with *mental retardation*
3. Intention tremor

C. Skeletal and Muscular System
1. *Rachitic skeletal changes* (late)
2. *Hypotonia*
3. *Retarded bone growth*

D. Gastro-Intestinal
1. Feeding problem—poor appetite
2. Failure to gain weight
3. Constipation

E. Laboratory
1. Urine—
   (a) *excessive organic acid*
   (b) *decreased production of ammonia*
   (c) *amino-aciduria*
   (d) *albuminuria* and intermittent glycosuria
   (e) *alkaline or slightly acidic pH*
   (f) loss of phosphorus and calcium in the urine
2. Blood—
   (a) *decreased serum CO_2 combining power*
   (b) decreased serum phosphorus
   (c) decreased hemoglobin levels
   (d) *increased alkaline phosphatase*

F. Miscellaneous
1. Hereditary
2. Cryptorchism
3. *Recurrent fever*—usually of unknown etiology
4. High-pitched cry

Note—the above characteristics represent a composite of the various papers perused in reference to Lowe syndrome, also known as the oculocerebrorenal syndrome. Those characteristics originally reported by Lowe *et al.* are italicized.

Figure 2

inferiorly and a sector iridectomy superiorly. Over a year has elapsed since the surgical procedure in the older brother, and it is obvious to the family and our clinicians that his scope of vision is definitely enlarging, indicating improvement in vision.

Iris tissue removed from each of the four eyes in which the optical iridectomies were performed was microscopically examined; in each instance an absence of the iris dilator muscle was reported. We can now account for the lack of response to 10 per cent Neosynephrine, the poor response to mydriatics, and for the congenital miosis noted in case studies of the OCR syndrome. Credence for this assumption is supported by at least three reports in the literature[2] (Weve, 1931; de Saint-Martin, 1939; and Lutum and Neel, 1949), where the lenticular changes and miosis in Marfan syndrome have been associated with hypoplasia of the iris dilator muscle and with a poor reaction of the iris to atropine—the latter characteristic being shown to be due to hypoplasia of the pupillary dilator muscle.

Another interesting finding relevant to the study of the pedigree was the condition of hydramnios. Pregnancy records of six members of the pedigree reveal that four resulted in involved male infants and two in uninvolved female infants. Hydramnios was noted by the attending physician in each of the pregnancies which resulted in a male infant with the defective trait. Correspondence from an informant of the pedigree family noted that mothers who had given birth to defective male infants had been larger or had more difficulty with fluid retention throughout their pregnancy than those whose pregnancies resulted in normal infants. According to Duke-Elder,[2] the presence of hydramnios, if sufficiently marked, is often associated with congenital deformities, and in analyzing a birth defect, the presence of hydramnios during pregnancy must be considered a possible factor.

In 1907, Stieren[7] reported a study in atavistic descent of congenital cataracts and exhibited a family pedigree of four generations with a total of 78 offspring, 17 of whom were born with opacities in the crystalline lenses and died early in life. The informant for that study claimed that the birth of a blind child in the family was usually heralded by an enormous amount of amniotic fluid early in pregnancy. So constant was this phenomenon that the family had grown to regard an abnormally distended abdomen as significantly ominous.

Another observation pertinent to this study is the presence of fine punctate lenticular opacities noted in the heterozygote females. This has been noted by other investigators reporting pedigrees where congenital cataracts are involved, but without describing the location of these opacities. They may vary in size but are usually quite fine, appearing somewhat like snowflakes and occurring mainly in the periphery of the lens cortex. They are nonprogressive and seldom interfere with vision. It is thought that they represent late-formed fibers which have undergone degeneration and have broken down into granular debris. These are so transparent that they are practically invisible by transillumination and are best seen with a thin, obliquely directed beam of the slit lamp.[2]

For this study, the mother, grandmothers, and sister

of the propositus were examined; the mother and sister of another involved male child were examined for the study by an ophthalmologist elsewhere. In all five cases, fine lens opacities were found bilaterally lying near the anterior and posterior planes of the adult nucleus of the lens. Interesting but puzzling is the fact that in both families, the daughters had more prominent opacities than their mothers. This represents a very important application—the possibility that by a careful slit lamp examination it may be possible to identify the genetic carriers for congenital cataracts in young girls. This presents the possibility of genetic counseling prior to marriage.

Summary

A case study of a 5-month-old propositus with bilateral congenital miosis and cataracts appearing to be sex-linked was presented. The general findings in this patient, as well as those of an older brother, appear to be representative of the oculocerebrorenal syndrome. Literature was perused relating to Lowe syndrome and a composite prepared of the various physical signs and clinical findings reported by other investigators. The review of literature did not yield a possible cause for the presence of congenital miosis. In an effort to improve vision, bilateral optical iridectomies were performed in both of the infants reported in this paper rather than a cataract procedure as appears to have been done by other investigators. Iris tissue specimens were submitted to the pathologist who reported the absence of the iris dilator muscle in all four eyes.

A pedigree involving the propositus of our case study was developed. In the four generations consisting of 40 family members with 24 males, 11 exhibited congenital cataracts. Five genetic carriers (females) were carefully examined with a slit lamp and found to have fine punctate opacities in the lens cortex near the anterior and posterior capsules. An incidental finding was that at least six of the pregnancies resulting in males affected with the trait had associated hydramnios, a condition also reported by other investigators.

References

1. Walsh, F. and Wegman, M.: A pedigree of hereditary cataracts, illustrating sex-limited type. *Bull. Johns Hopkins Hosp.* 61:125-135, 1937.

2. Duke-Elder, S.: *Systems of Ophthalmology,* Vol. 3, St. Louis, C. V. Mosby, 1964, 590 and 715-761.

3. François, J.: Syndromes with congenital cataracts. *Am. J. Ophthalmol.* 52:207-238, 1961.

4. Lowe, C.; Terry, M. and MacLachan, E.: Organic aciduria, decreased renal ammonia production, hydrophthalmos, and mental retardation. *Am. J. Dis. Child* 83:164-184, 1952.

5. Schoen, E.: Lowe syndrome—abnormalities in renal tubular function in combination with other congenital defects. *Am. J. Med.* 27:781-792, 1959.

6. Richards, W. *et al.:* The oculocerebrorenal syndrome of Lowe. *Am. J. Dis. Child* 109:135-202, 1965.

7. Stiern, E.: A study in atavistic descent of congenital cataract through four generations. *Ophthalmol. Record* 16:234-238, 1907.

WORKSHOPS TO AID FPs

The American Academy of Family Physicians will hold workshops to assist practicing family doctors to take the certifying examination in family practice.

The series of eight workshops, to be held January through March at various sites, are designed specifically to help doctors prep for the upcoming exam in August 1978. The 1978 exam will be the last one for which family doctors who have not completed a family practice residency may be eligible. Subsequent examinations will be open only to physicians who have completed an approved residency training program.

According to Dr. Tom Stern, director of the AAFP Education Division, the workshops will provide information on testing techniques similar to those used for the board examination scheduled in August. He noted that these workshops will be similar to the continuing education programs on the subject conducted at the recent AAFP Scientific Assembly in Las Vegas. He added that it is important that prospective examinees be aware that the cutoff date to apply to take the examination is April 1.

Advance registration is necessary to attend the workshops. For further information, write Education Division, American Academy of Family Physicians, 1740 West 92nd Street, Kansas City, MO 64114, or call 800-821-2512. A fee of $50 will be charged to offset expenses.

Dates and sites of the workshops:

January 7, Atlanta Hilton, Atlanta, GA

January 8, Americana Inn of the Six Flags, Arlington, TX

February 24, Sheraton Denver Airport Hotel, Denver, CO

February 25, Thunderbird Jantzen Beach Motor Hotel, Portland, OR

February 26, Century Plaza, Los Angeles, CA

March 3, Sheraton Airport Inn, Philadelphia, PA

March 4, Radisson South, Bloomington, MN

March 5, Hyatt Regency O'Hare, Chicago, IL

Male Breast Carcinoma

An Analysis of Four Cases

ROBERT G. RATE, M.D., ***Halstead***

THE BREAST is man's insignia of membership in the class of Mammalia. It is humbling to reflect that this badge of status had its origin as a modified sweat gland. Embryonically the "mammary ridge" or "milk line" extends from the axilla to the groin as an ectodermal thickening.[1] Final location of the breast could be in the groin, as in the cow, or over the anterior thorax, as in man, with any interval possibility. In the male the breast is a dormant structure, whereas in the female from puberty to death the breast undergoes constant physical change relative to the menstrual cycle, pregnancy, lactation, and menopause. This accounts for the vast difference in the incidence of malignancy in the female versus the male breast. At the Hertzler Clinic, since 1946, there have been 716 cases of female breast carcinoma and 4 cases of male breast carcinoma, an incidence of 1 : .0056. Four cases of carcinoma of the male breast are compared in *Table I*.

Table II shows the total number of cases diagnosed as carcinoma of the breast in male and female patients for each year from 1946-1977.

Carcinoma of the male breast is considered a lethal disease and its treatment is controversial. Usually either duct cell or adenocarcinoma cell types are found. Males often fail to take the problem seriously, which results in a general pattern of late diagnosis. Consequently, infiltration is usually in progress; skin invasion is the rule; and axillary node involvement and underlying muscle invasion are present in 75 per cent of cases at the time of surgery. The likelihood of lymphatic and blood dissemination contributes significantly to the increased possibility of lethal prognosis. New York Public Health Series gives a five-year cure rate in only 1.5 per cent of cases.[2]

Slight swelling with hypersensitivity of the nipple is often seen in adolescent boys. *Gynecomastia* is a physiologic response to the change in the hormonal milieu, and has no significance unless the condition persists. A search should be made for abnormal endocrine secretion, breast stimulation from antihypertensive drugs, or a cause of failure of the liver to detoxify estrogens. A small button of hypertrophied breast tissue may be removed for relief of symptoms, not because of danger of malignant change.

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Factors relating to the poor prognosis for persons diagnosed with this carcinoma are discussed and comparative data presented.

Classification and Staging[3]

I = TNM System
T = Primary tumor
N = Regional lymph nodes
M = Absence or presence of distant metastasis
II = Columbia Clinical Classification[4]

Stage A: No skin edema, ulceration, or fixation to chest wall. Axillary nodes not clinically involved.

Stage B: No skin edema, ulceration or solid fixation to chest wall, but axillary nodes are clinically involved; primary lesion less than 2.5 cm (30 divisions) transverse diameter; no fixation to deep structures.

Stage C: Any one of five signs of advanced carcinoma:
1. Edema of skin overlying lesion;
2. Solid fixation of tumor to chest wall;
3. Skin ulceration;
4. Massive involvement of axillary nodes;
5. Fixation of axillary nodes to skin or deep axillary structures.

Stage D. All other patients with more advanced breast carcinoma:
1. Combination of any two of the five findings in Stage C;
2. Satellite skin nodules;
3. Supraclavicular metastasis;
4. Edema ipsilateral arm;
5. Evidence of distant metastases;
6. Inflammatory type carcinoma.

Diagnosis

Mammography represents an accurate and valuable addition to our diagnostic armamentarium of breast

TABLE I

Year	*Case 1* *1951*	*Case 2* *1960*	*Case 3* *1968*	*Case 4* *1972*
Age at diagnosis	74	57	68	89
Months nodule known to patient	3	12	4	10
Size of lesion	3.5x3 cm	1.5x1 cm	2.5x3 cm	4x5 cm
Axilla nodes involved	none	2	5	none
Muscle invasion	No	Yes	Yes	Yes
Type of operation	Classical radical mastectomy	Classical radical mastectomy	Classical radical mastectomy	Simple mastectomy
Cell type	Duct cell	Adenocarcinoma	Adenocarcinoma	Adenocarcinoma
X-ray therapy	None	Conventional radiation axilla	Cobalt therapy	None
Survival—years	4	6	3	1

TABLE II

Year	*Number females*	*Number males*
1946	12	0
1947	18	0
1948	29	0
1949	17	0
1950	25	0
1951	12	1
1952	17	0
1953	7	0
1954	14	0
1955	28	0
1956	16	0
1957	22	0
1958	27	0
1959	23	0
1960	31	1
1961	28	0
1962	32	0
1963	32	0
1964	32	0
1965	29	0
1966	33	0
1967	40	0
1968	31	1
1969	25	0
1970	26	0
1971	25	0
1972	12	1
1973	11	0
1974	18	0
1975	17	0
1976	15	0
1977	12	0
Total	716	4

F : M incidence = 1 : .0056.1

diseases. The technique is not a substitute for biopsy but is useful in:

1. Examination of an indeterminate mass or several vague masses when palpation is uncertain;
2. Examination of the large, fatty breast where palpation is inaccurate and yet suspicious;
3. It may be the best method of follow-up examination for the contralateral breast following radical mastectomy.

A skilled radiologist can detect breast cancer with a false-positive rate of approximately 11 per cent, and a false-negative rate of 6 per cent.[5]

Thermography is based on an increase in skin temperature over malignant tumors. Special heat scanners are required to detect the "hot spots." Errors are high except in experienced hands.

Immune Reactions. Blood testing is still nonspecific. This subject is receiving intensive study.

Treatment

All palpable or suspicious lesions must be biopsied for definitive diagnosis. Most American surgeons today perform radical Halsted mastectomy probably because they know it is the best procedure statistically,[6] yet there may be some doubt. The available data is vast and there are no valid, statistically sound studies accurately comparing the various operations or modalities of therapy. Criles[7] expresses the belief that simple mastectomy is all that is justified, stating that node bearing areas should not be treated because treatment of these areas will diminish the host's resistance to the tumor. However, in his own series, almost one-third of the cases were treated by x-ray therapy to the axilla. In the Rockford, Illinois experience,[8] simple mastectomy produced a five-year survival rate of 42 per cent, whereas radical mastectomy increased the survival rate

to 53 per cent. Extended radical mastectomy without nodes produced an 84 per cent survival rate; with nodes, 70 per cent. However, the series were not concurrent and demonstrated "definitive selection" of patients rather than "crude" survival rates.

Summary

Certain facts are evident. Five-year survival is not long enough to judge breast malignancy, and does not provide the same assurance against recurrence that this period of time does in other malignancies. The end result of the National Cancer Institute study suggests a plateau has been reached in this disease.[9] Classical radical mastectomy produces a 10-year survival rate in 76.3 per cent of patients without axillary node involvement, and for patients with apex, middle and lower axillary node involvement, survival rates of 11, 30, and 39 per cent are achieved for the same period.[10] Simple mastectomy shows a 10-year survival for 40 per cent of patients without nodal involvement, and 9 per cent with nodes.[11] All studies of this disease illustrate that the absence of axillary lymph node involvement is of prime importance for patient survival. This is understandable as the radioactive colloidal gold studies of Hultborn *et al.* demonstrated the lymphatic flow from the breast is overwhelmingly toward the axilla. The axillary nodes took up 97-99 per cent of the isotope, while the internal mammary nodes took up only 1-3 per cent.[12] The same factors affecting survival are applicable in carcinoma of the male breast as in the female breast.

References

1. Bresslaw, E. L.: *The Mammary Apparatus of the Mammalia.* London, Methuen, 1920.
2. Moss, N. H.: *Cancers of the Male Breast.* American New York Academy of Science 114:937, 1964.
3. International Union Against Cancer, 1969.
4. Haagensen, C. D.: *Diseases of the Breast.* Chapter 33, p. 630, 1971.
5. Wolfe, J. N.: Mammography: Errors in diagnosis. *Radiology* 87:214, 1966.
6. Haagensen, C. D. *et al.:* The treatment of early mammary carcinoma—a cooperative international study. *Am. Surg.* 170:875, 1969.
7. Crile, George, Jr., *et al.:* Results of treatment of carcinoma of the breast by local excision. *Surg. Gynecol. Obstet.* 132:780, 1971.
8. Smith, Simmons S. *et al.:* Cancer of the breast in Rockford, Illinois. *Am. J. Surg.* 98:653, 1959.
9. National Cancer Registry: *Cancer* 23:355, 1973.
10. Haagensen, C. D.: *Diseases of the Breast.* Chapter 33, p. 647, 1971.
11. Mills, E. B.: Simple mastectomy for mammary carcinoma. *Am. Surg.* 170:879, 1972.
12. Hultborn, K. A. *et al.*: The lymph drainage from the breast to the axillary and parasternal lymph nodes, studied with the aid of colloidal AU 198. *Acta Radiol.* 43:52, 1955.

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Schizo-Affective Psychosis

Diagnostic and Therapeutic Considerations in a Father and Son

DAN MONTGOMERY, M.D.,* ***Halstead***

DIAGNOSTIC DEBATES abound in psychiatry. Some psychiatrists deplore the idea of diagnosis, feeling that it stereotypes patients and obscures psychodynamic issues. Others believe rigorous diagnosis is the basis of rational therapy. The latter view has gained increased acceptance recently, as more specific treatments have made accurate diagnosis necessary for correct therapeutic decisions. This has been particularly true in the area of the affective disorders. The use of lithium carbonate has made the distinction between manic-depressive disease and recurrent depression vitally important.

Among the most difficult patients to classify are those who occupy a position between manic-depressive disease and schizophrenia. These patients have profound depression or excitement in addition to schizophrenic symptoms of formal thought disorders. During acute episodes, they are extremely disorganized and often indistinguishable from more classical schizophrenics. Their longitudinal course, however, features complete remissions and favors manic-depressive disease.

Nearly 30 different syndrome names have been used to conceptualize this illness. The various views can be broken down into four major theories about schizo-affective disease:

1. The German psychiatrist, Emil Kraepelin,[1] was the first to study this group of patients. He divided all the endogenous psychoses into manic-depressive disease and schizophrenia. He believed that schizo-affective disease represented a blend of symptoms from the two illnesses. Further, he concluded it to be a genetic hybrid, with affected individuals having both manic-depressive disease and schizophrenia in their family backgrounds.

2. Kasanin[2] introduced the term "schizo-affective schizophrenia" in 1933. He believed the illness to be a subtype of schizophrenia. This term has been widely accepted in the United States. It is consistent with the American concept of schizophrenia, which is considerably broader than that used in the European countries.

3. A third approach, vigorously advocated by Winokur's group,[3] believes these individuals represent a variant of manic-depressive disease.

4. Finally, Leonhard and Perris[4] have concluded this illness is a separate and distinct psychosis. They emphasize its periodic nature with the term "cycloid psychosis."

Factors relating to the controversies of diagnosis and treatment are outlined and supported with case histories of a father and son. The common practice of grouping such individuals with chronic deteriorating schizophrenics is questioned.

The patients presented in our study, a father and son, have typical schizo-affective illness. Their symptoms, treatment response, and family history are pertinent to the many unanswered questions about this disease.

Case Reports

Case One

A 20-year-old college student was admitted to Halstead Hospital in February 1977. During the fall semester he developed confusion, ideas of reference, audible thoughts, auditory hallucinations, and protracted insomnia. He believed people were communicating with him through symbolic words and actions. Frightened and despondent, he contemplated jumping out the window of his tenth-floor dormitory room. He dropped out of school at Christmas and remained at home until his admission to the hospital.

The past history revealed no developmental problems. He was a good student, played basketball, and held several class offices in high school. The family history is significant. The paternal grandmother had recurrent psychotic episodes. These were characterized by despondency, confusion, suspiciousness, insomnia, and irrational talk. She was normal between attacks, but committed suicide during an episode, after expressing the fear she would be put in an institution. Additionally, one cousin on the father's side developed psy-

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chosis with affective and cognitive components at age 20. This problem has since been resolved.

Our patient's hospital course was initially quite stormy. He refused skull films, believing the technician was going to fry his brain. Perphenazine (Trilafon) 4 mg four times/day produced no improvement. Lithium carbonate, 600 mg three times/day was added. A serum lithium level of 1.0 meq/L was obtained in ten days, and rapid clinical improvement ensued.

The patient has been followed monthly since his dismissal. He is working and saving money for his return to college. He is engaged to be married. There is no evidence of cognitive or affective impairment.

Case Two

A 52-year-old construction worker had his first psychotic episode at age 19. He developed total insomnia, confusion, and delusions while attending a convention just after his high school graduation. He received insulin coma therapy during a six-month hospitalization, and the diagnosis of chronic undifferentiated schizophrenia was made. A precipitous recurrence one year later subsided in several months without specific therapy. The patient attended college, worked as an engineer, and did well until age 31. He became ill again just after the birth of his only child. This recurrence cleared promptly with shock treatments. Psychotic episodes then occurred yearly until five years prior to the index admission. At this time the episodes shortened from months to weeks, but they occurred three-four times/year. He had been treated with nearly every type of somatic therapy available except lithium carbonate. His diagnoses had covered all the subtypes of schizophrenia.

Prior to the present admission he developed total insomnia, began responding to hallucinations, and talked irrationally. During the drive to the hospital, he believed people in other cars were pursuing him and he attempted to leap out of the car.

He was treated with perphenazine (Trilafon) 4 mg at bedtime, and lithium carbonate 2100 mg/day. One week later, at serum lithium levels of 10 meq/L, the psychosis began to remit.

On follow-up, this patient is witty and articulate. He talks insightfully and poignantly about the disruptions his recurrent psychotic episodes have caused in his family and occupational life.

Discussion

Both patients had extremely bizarre symptoms, including several considered predictive of a deteriorating schizophrenic course. Both had complete remissions. The family history reveals three generations of recurrent atypical, or schizo-affective, psychoses with no cases of typical manic-depressive disorder or schizophrenia. Patient Two had received many different types of treatment, apparently without altering the natural course of his illness. It is too early in follow-up to know what effect lithium will have on the pattern of disease. Several recent studies, however, have shown that lithium is useful in treating acute episodes and preventing schizo-affective recurrence.

Patients like those reported above continue to cause confusion and controversy among psychiatrists over both diagnostic and treatment issues. Until recently, such patients were often automatically labeled schizophrenic. In fact, both of our patients were referred with that diagnosis. The frequency of the diagnosis of schizophrenia in the United States rose steadily until late 1960s, when a specific treatment (lithium carbonate) was introduced for manic-depressive disease.[6] This ever broadening concept of schizophrenia meant the term was at times applied in an indiscriminate and inaccurate way. While the practice seems on the wane, there is still a tendency to make the diagnosis with insufficient thought and clinical observation.

The Kraepelinian dichotomy utilized by most psychiatrists seems to be a second stumbling block in handling such patients. Implicit in much psychiatric thinking is the idea that all psychosis must fit into either the manic-depressive or schizophrenic category. When the patient will not oblige and presents with an unusual clinical picture or longitudinal course, the psychiatrist becomes uncomfortable.

There has generally been an overemphasis of the acute symptom profile. Much attention has been given to finding symptoms pathognomonic of schizophrenia. This comes at the expense of good longitudinal observations and attention to family history. Several recent studies[7] have underscored the inaccuracy of acute symptoms in predicting the final diagnosis or longitudinal course.

As a result of such practices, the patient receives very early in his illness—usually schizophrenia—a diagnosis based on his most malignant symptoms. This diagnosis then develops a life of its own in his medical record, following him and possibly influencing his treatment.

There is a considerable amount of literature to support quite a different approach to these patients. The illness has fascinated and perplexed psychiatrists since Kraepelin at the turn of the century. Speculations are more common than detailed clinical observations; however, some excellent studies have been recorded. Since acute symptom profiles lack reliability, studies with longitudinal, family history, or genetic data are espe-

cially important. Porcci,[7] in a comprehensive review of schizo-affective disease, identified 13 clinical studies with family history of genetic information. These studies were divided almost evenly between those finding a relationship to manic-depressive disease and those supporting a distinct psychosis concept. In a separate study, the most comprehensive to date, Perris[8] followed 60 patients with schizo-affective symptoms. He reported extensively on longitudinal course, family history, and genetic data. He found a strong tendency for homotypical breeding; *i.e.,* the illness remained constant in families through several generations without the appearance of typical schizophrenia or manic-depressive disease.

In spite of a great deal of intuitive appeal, there is little evidence to support the Kraepelinian idea that schizo-affective illness is a hybrid of manic-depressive disease and schizophrenia. Likewise, the data refute Kasanin's widely accepted thesis that these individuals are a schizophrenic sub-type, closely related to chronic deteriorating or process schizophrenia. The evidence consistently supports the notion that these patients either have a variant of manic-depressive disease, or a separate psychosis. The family presented here seems to fit most convincingly with the conceptualization of a separate and distinct psychosis.

Summary

Diagnosis is useful if it serves treatment and prognosis. Distinguishing schizo-affective patients from nuclear, or process schizophrenics is important. These patients have a clinical course quite different from chronic schizophrenics. Similarly, their treatment may be different. The term "schizo-affective schizophrenia" therefore seems to be a misleading one, for it implies a closer relationship to nuclear or process schizophrenia than actually exists. It also obscures the fact that lithium carbonate may be very useful for some of these patients.

The European term "cycloid psychosis" has considerable appeal, as there is strong evidence that some of these individuals may indeed have a separate and distinct disease. However, it seems unwise to add yet another term to a syndrome already confused with over 30 different names. This is particularly true until the relationship between this illness and manic-depressive disease is resolved.

Until schizo-affective psychosis is more completely understood, clinicians should observe two cautions: (1) the tendency to draw excessive conclusions from the acute symptom complex must be avoided; and (2) these patients should not be thoughtlessly included in an overly broad concept of schizophrenia. A flexible approach, therapeutic optimism, and the persistence to observe and learn from these individuals over an extended period of time is essential for effective treatment.

References

1. Stabenau, J.: Genetic and other factors in schizophrenia, manic-depressive and schizo-affective psychoses. *J. Nerv. Ment. Dis.* 164:149-167, 1977.
2. Kasanin, J.: The acute schizo-affective psychosis. *Am. J. Psychiatry* 13:97-126, 1933.
3. Clayton, P.; Rodin, L. and Winokur, G.: Family history studies: III. Schizo-affective disorder, clinical and genetic factors including a one to two year follow-up. *Compr. Psychiatry* 9:31-49, 1968.
4. Perris, C.: A study of cycloid psychoses. *Acta. Psychiatr. Scand.* (Suppl.) 253:1-74, 1974.
5. Taylor, M. S. and Abrams, R.: The phenomenology of mania: A new look at some old patients. *Arch. Gen. Psychiatry* 29:520-522, 1973.
6. Baldessarini, R. J.: Frequency of diagnosis of schizophrenia versus affective disorders from 1944 to 1968. *Am. J. Psychiatry* 127:759-763, 1970.
7. Carlson, G. A. and Goodwin, F. K.: The stages of mania. *Arch. Gen. Psychiatry* 28:221-228, 1973.
8. Perris, C.: *Ibid.*

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EKG

Cardiac Monitoring in the Operating Room

DONALD D. DECKER, M.D., ***Halstead***

All patients undergoing general anesthesia at the Halstead Hospital since 1971 have been monitored by electrocardiograph. From March 1971 through July 1977, more than 6,000 patients were monitored. This report includes all patients monitored during this period of time, except for those who underwent open-heart surgery (excluded because all had cold arrest or induced ventricular fibrillation).

Anesthesia was routinely induced with sodium pentothal, followed by nitrous oxide plus Fluothane. Monitor strips were recorded in the operating room immediately prior to induction, during induction, during intubation, during the surgical procedure, and during recovery in the post-anesthesia room (PAR). The statistical information concerning the cardiac arrhythmias recorded is detailed in *Figure 1.* These percentages include sinus tachycardia, an arrhythmia which is usually not significant unless severe. (Sinus tachycardia was less common during later stages and will not be commented on further.) The most common arrhythmia prior to induction of anesthesia was sinus bradycardia, which occurred in 215 patients (3.5%). This was true despite routine premedication with atropine.

Following the initial base line tracing in the operating room (OR), premature ventricular contractions (PVC) were the most frequent arrhythmia recorded during induction, intubation, surgery, and recovery.

A wide variety of benign arrhythmias were recorded in addition to sinus bradycardia and premature ventricular contractions, including sinus arrhythmia, wandering pacemaker, premature atrial contractions, premature nodal contractions, nodal tachycardia, and first degree AV block. More significant, potentially dangerous arrhythmias included sinus pause and sinus arrest, atrial tachycardia, atrial fibrillation, nodal tachycardia, second degree AV block, third degree AV block, and ventricular tachycardia.

Routine cardiac monitoring during surgery at the Halstead Hospital is reviewed, and the benefits are discussed.

The mechanism of cardiac arrest is generally recognized to be either asystole or ventricular fibrillation. In our series, asystole occurred only once and was promptly, successfully treated with a blow to the chest. Ven-

SUMMARY OF ARRHYTHMIAS

		Before Induction	*Induction*	*Intubation*	*Procedure*	*Recovery Room*
Patients with arrhythmias (out of 6,222 total)	3717 (59%)	1698 (27%)	1676 (27%)	992 (16%)	478 (7.6%)	1472 (24%)
Patients with arrhythmias excluding sinus tachycardia	1424 (23%)	850 (14%)	830 (13%)	668 (11%)	1174 (19%)	1050 (17%)
PVC		165 (2.3%)	245 (3.9%)	333 (5.4%)	596 (9.6%)	390 (6.3%)
Bigeminy		12 (0.2%)	60 (1.0%)	118 (1.9%)	241 (3.9%)	48 (0.8%)
Sinus bradycardia		215 (3.5%)	127 (2.0%)	62 (1.0%)	156 (2.5%)	289 (4.6%)
PAC		73 (1.2%)	76 (1.2%)	54 (0.9%)	102 (1.6%)	87 (1.4%)
PNC		22 (0.4%)	31 (0.5%)	92 (1.5%)	70 (1.1%)	56 (0.9%)
Nodal tachycardia		16 (0.3%)	17 (0.3%)	23 (0.4%)	50 (0.8%)	21 (0.3%)
Nodal rhythm		18 (0.3%)	26 (0.4%)	18 (0.3%)	51 (0.8%)	30 (0.5%)
Atrial fibrillation		50 (0.8%)	50 (0.8%)	42 (0.7%)	47 (0.8%)	49 (0.8%)
Ventricular fibrillation			1	1	2	

Figure 1

tricular fibrillation occurred in four patients. Three were promptly, successfully defibrillated. Ventricular fibrillation resulted in death in the third patient.

In one instance, ventricular fibrillation secondary to accidental extubation occurred in a 35-year-old female during repositioning, but responded immediately to defibrillation and reintubation.

Another case, a 70-year-old female with chronic PVC, developed ventricular fibrillation during induction for a cholecystectomy. She was promptly defibrillated, and the surgical procedure was accomplished without further incident. Digitalis intoxication may have been a contributing causative factor.

The third instance involved a 60-year-old male with chronic congestive heart failure due to myocardiopathy, who was taken to surgery for removal of a carcinoma of the transverse colon. PVC occurred frequently during base line, induction and intubation, despite intravenous administration of lidocaine. Ventricular fibrillation occurring during the surgical procedure was successfully defibrillated with full recovery.

The fourth case of ventricular fibrillation occurred as a terminal arrhythmia in a 62-year-old male immediately after pneumonectomy for carcinoma of the lung. This was preceded by EKG changes suggestive of acute myocardial infarction.

Although anesthetic agents themselves tend to cause cardiac arrhythmias and thus predispose to cardiac arrest, hypoxemia (from either hypoventilation or low levels of inspired oxygen) is the most common cause of unexpected cardiac arrest.[1] On several occasions, failure of arrhythmias to respond to lidocaine prompted the obtaining of stat blood gases, which revealed evidence of inadequate ventilation. Thus, electrocardiographic monitoring sometimes indicated that ventilation was not adequate and corrective measures probably prevented more serious difficulty.

In some cases arrhythmias indicated the presence of an unsuspected metabolic acidosis. On one occasion, following abdominal hysterectomy, a 43-year-old female developed multiple PVC and bigeminy during wake-up in PAR. There was no response to intravenous lidocaine. Blood gases were obtained revealing metabolic acidosis with pH 7.26. The arrhythmia subsided promptly following intravenous administration of sodium bicarbonate.

Anti-arrhythmia medications were administered frequently in the operating room and PAR. Lidocaine was administered if PVC became frequent, multiple or bigeminal, preventing progression to more severe arrhythmias. Digitalis preparations and Inderal were also administered when indicated.

T wave inversion noted during monitoring prompted the performance of full EKG, which sometimes revealed unsuspected acute myocardial infarction. Asymptomatic myocardial infarctions occur occasionally during surgery with an incidence that may approach 2 per cent.[2, 3] In our series, some acute myocardial infarctions occurred in an age group in which they would not be suspected and would not have been diagnosed if routine monitoring was not done.

INTRAOPERATIVE MORTALITY

Cause of Death: Acute Myocardial Infarction

Age	*Procedure*	*Arrhythmia*
86	Hip replacement	Dying heart pattern
62	Hip replacement	Dying heart pattern
62	Pneumonectomy	Ventricular fibrillation
75	Rt. lower lobectomy	Dying heart pattern

Figure 2

Four patients in our group died during surgery or in the recovery room. All four deaths were attributable to acute myocardial infarction and were not due to primary cardiac arrhythmia *(Figure 2)*.

Summary

Cardiac arrhythmias are common during general anesthesia, frequently occurring in relatively young persons without known cardiac disease.[4] Routine electrocardiographic monitoring permits the recognition and treatment of significant premonitory arrhythmias, often preventing sudden, unexpected lethal arrhythmias. When potentially lethal arrhythmias do occur, prompt and appropriate treatment is usually successful except in the presence of severe cardiac disease. Monitoring significantly reduces the risk of general anesthesia, and every patient who undergoes a general anesthetic deserves the extra protection that electrocardiographic monitoring gives him.

Acknowledgements

This study was supported in part by grants from The Hertzler Research Foundation and from the Harvey County Division, Kansas Affiliate, American Heart Association. Mary Kay Griffith, R.N., Phyllis Kauffman, R.N., and Jean Yates, R.N. assisted in the study.

References

1. Taylor, G. *et al.:* Unexpected cardiac arrest during anesthesia and surgery. *JAMA* 236:2758-2760, 1976.
2. Hunter, P. R. *et al.:* Myocardial infarction following surgical operations. *Br. Med. J.* 4:5633-5725, 1968.
3. Tarlan, S. *et al.:* Myocardial infarction after general anesthesia. *JAMA* 220:1451-1454, 1972.
4. Bertrand, C.: Disturbances of cardiac rhythm during anesthesia and surgery. *JAMA* 216:1615-1616, 1971.

Preoperative Selection

Carcinoma of the Lung

W. D. HOOFER, M.D., ***Halstead***

CARCINOMA of the lung continues to increase in frequency in the United States. The American Cancer Society[1] estimates that 98,000 cases will be diagnosed this year. Approximately 40 per cent of these will have distant metastases at the time of diagnosis eliminating any direct surgical attack on the tumor. Of those without distant metastases at the time of diagnosis, 40 per cent will have regional metastases and only 20 per cent will have localized disease within the lung. Yet it has been stated that the only patients with carcinoma of the lung who can expect to have a long term survival period after time of diagnosis are those who have undergone surgical resection.[2]

Regional lymphatic metastases to the hilum of the lung are still considered to be within the confines of surgical excision; however, metastatic spread to the mediastinal nodes is considered by many authors to have passed the stage of resectability. Several series recently published dispute this latter premise and have demonstrated increased survival with radical hilar and mediastinal lymphadenectomy.[3, 4]

This report relates experiences in the practice of thoracic surgery at The Hertzler Clinic. An effort was made in this selective series to eliminate those patients from surgical consideration who had evidence of distant or extensive local metastases. Each patient was evaluated by medical, surgical, and radiology personnel prior to any definitive treatment.

Methods

Standard methods of evaluation included admission radiography, tomography, rigid and flexible bronchoscopy with biopsy, mediastinoscopy, and an occasional scalene node biopsy. Bone, brain, liver, and lung nuclear scanning was done where indicated. Mediastinoscopy was not done routinely unless evidence was seen of a hilar lesion or a widened mediastinum on chest x-ray or tomograms. Intravenous pyelograms were routinely done on solitary peripheral lesions, as was bone scanning and bone marrow biopsy when anemia or cytopenia existed on peripheral blood examination. Gastrointestinal x-ray series were rarely done unless a history of significant bowel symptoms was elicited or a previous bowel malignancy had been resected.

Surgical therapy consisted of standard thoracotomy with biopsy of the parent lesion, and hilar and mediastinal lymph nodes in all cases of exploration without resection. Due to severe chronic obstructive pulmonary disease, a segmental resection was performed on one patient with an oat cell carcinoma. All other resections consisted of lobectomy or pneumonectomy, with extensive hilar and mediastinal lymph node dissection. Three patients had bronchial sleeve resections and lobectomy to preserve functional lung tissue. Ten patients required concomitant tracheostomy and postoperative mechanical ventilation because of pneumonectomy or severe chronic obstructive disease.

A study of carcinoma of the lung is presented to emphasize the need for preoperative selection and extensive hilar and mediastinal lymphadenectomy at operation.

Materials

Seventy-six patients with primary bronchogenic carcinoma were treated from 1966 to 1976 *(Table I)*. *Table II* tabulates lymph node involvement in the resected specimens according to type of resection and tumor. Five patients died within 30 days following surgery (pneumonectomy, 4; lobectomy, 1), comprising operative mortality of 11 per cent. Three of the pneumo-

TABLE I

TABULATION OF 76 CASES TREATED

	Biopsy Only	*Exploration Without Resection*	*Resection*
Epidermoid	17	1	26
Adenocarcinoma	2	1	14
Undifferentiated	5	1	1
Oat cell	4	1	3
	28	4	44

TABLE II

SURVIVAL AS RELATED TO TUMOR, TYPE OF SURGERY, AND NODAL INVOLVEMENT

Surgery	*Patients*	*Tumor*	*Positive Hilar Nodes*	*Positive Mediastinal Nodes*	*Surviving Patients*
Pneumonectomy	14	Epidermoid	8	4	3
		Adenocarcinoma	2	1	0
		Undifferentiated	1	1	0
		Oat cell	0	0	0
		Totals	11	6	3
Lobectomy	30	Epidermoid	5	3	14
		Adenocarcinoma	6	3	6
		Undifferentiated	0	0	0
		Oat cell*	1	1	2
		Totals	12	7	22

* Includes one segmental resection.

nectomy patients died at home, presumably of cardiac arrhythmia.

Results

Follow-up has been complete for all patients. One patient with epidermoid carcinoma involving the carina has survived five years following cobalt-60 radiation therapy, and is at the present time without evidence of tumor. All others, biopsied but not resected, died two weeks to 16 months following biopsy.

Forty-four patients had definitive resections. Of the 39 patients surviving the procedure, 25 are alive and without evidence of disease 12 to 120 months post resection *(Table III)*. Two patients included in the statistics are dead. One died at seven months post resection due a pulmonary embolus, and the other at 46 months post resection due to stroke. Both were autopsied at the Halstead Hospital and found to be free of primary disease. Approximately 62 per cent of those undergoing definitive resection are surviving free of disease, but only 32 per cent are more than three years post resection.

Comment

Forty-two per cent of the patients in this series had primary carcinomas which were either inoperable or nonresectable when first seen. This compares favorably with the national statistics.[2] It behooves the physician to try to detect these individuals prior to operative intervention, since the surgical attack on the tumor is futile and the mortality for exploration without resection is high. The results of this study appear to correlate well with literature relative to the value of extensive hilar or mediastinal lymph node resection.[3,4] Approximately one-half of the surviving patients had positive hilar lymph nodes, and one-fourth had both hilar and mediastinal lymph node involvement. As expected, the percentage of lobectomy patients surviving was much greater than that of pneumonectomy, and reflects a greater quantity of disease present when a pneumonectomy is required to remove the tumor. Similarly, in our experience, the survival rate for epidermoid carcinoma was approximately twice that for adenocarcinoma, which correlates well with other authors' findings.

TABLE III

SURVIVAL FREE OF CANCER

	Number	
Epidermoid		
12-16 months	4	
17-33 months	5	
34-54 months	3	
55-108 months	5	
Total		17
Adenocarcinoma		
7-18 months	2	
19-48 months	3	
120 months	1	
Total		6
Undifferentiated		0
Oat Cell		
42 months	1	
84 months	1	2
Total		25

This series of patients is too small to be statistically significant, yet it does suggest that a high degree of selectivity should be exercised prior to surgical intervention. It also suggests that a radical approach to extensive lymphadenectomy at operation may be beneficial in increasing survival.

Summary

Seventy-six patients with primary carcinoma of the lung were seen by the author from 1966 to 1977. Thirty-two (42%) of these carcinomas were either inoperable or nonresectable and 44 had definitive resections. Five (11%) did not survive more than 30 days following surgery. Twenty-five (62.3%) of the 39 patients surviving surgery are now alive 12 to 120 months following resection. The merits of preoperative selectivity and extensive hilar and mediastinal node resections are stressed.

References

1. American Cancer Society, *1977 Cancer Facts and Figures,* p. 19.
2. Lee, Yeu-Tsu N.: Prognostic factors in surgical treatment of bronchogenic carcinoma. *ACS of Columbia, Missouri,* SGO 35:961-975, 1962.
3. Paulsen, Donald L. and Resch, Joan S.: Long term survival after resection for bronchogenic carcinoma. *Ann. Surg.* 184:324-330, 1976.
4. Shields, Thomas W. *et al.:* Relationship of cell type and lymph node metastasis to survival after bronchogenic carcinoma. *Ann. Thorac. Surg.* 20:501-510, 1975.

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Endometrial Evaluation

Aspiration Curettage

COLIN BAILEY, M.D., ***Halstead***

THE ENDOMETRIAL aspirator* is a sterile disposable instrument for diagnostic suction curettage in the office or outpatient clinic. The procedure may be performed without premedication and usually without cervical dilatation. This is a report of its use in 200 patients seen in the office.

The principle is not new to gynecology for Novak[1] first described suction curettage for endometrial biopsy in 1935. The technique was devised primarily to obtain endometrial samples to determine whether a patient was ovulating. Novak claimed no originality for the principle of the procedure for the suction idea had long been employed by many gynecologists. He believed, however, that the electric motor suction which he employed was much more likely to yield satisfactory tissue than was suction by syringe. In 1937,[2] he expressed the opinion that its possibilities were not fully appreciated by the general profession. The method did not gain widespread acceptance until its reappearance in 1970, when it was reported by Jensen[3] in the Danish Medical Bulletin as having great potential. In addition, the technique has been well documented by Denis,[4] who evaluated 141 cases and found the correlation of diagnoses based on suction curettage and those based on conventional curettage or hysterectomy to be 97.8 per cent. No major complications were encountered. Walters[5] recently reported on 300 patients who underwent conventional hospital curettage under anesthesia 24 hours after outpatient curettage, and the results of the two methods compared favorably. Patient acceptance of the procedure was subsequently evaluated by Barnett,[6] and found to be good in 100 unanesthetized patients. Bjerre[7] found that 82 per cent of his 111 patients found the procedure to be relatively painless; 11.7 per cent noted slight discomfort; and 6.3 per cent described it as painful. An absolute histologic correlation of over 95 per cent was demonstrated by Cohen[8] in his group of 98 patients. The discrepancies were resolved by suction currettage and subsequent formal sharp curettage under anesthesia. They considered the technique useful and accurate for screening patients at risk for endometrial cancer.

Pathologic diagnosis of the endometrial tissue sample can help determine the cause of the following disorders:

1. Irregular menstrual cycles;
2. Uterine bleeding disorders;
3. Postmenopausal bleeding;
4. Abnormal vaginal bleeding, indicating the possible presence of carcinoma;
5. Hormonal dysfunction and infertility.

In addition, fractional curettage by two separate aspiration curettings may help to exclude cervical involvement in the presence of adenocarcinoma.

Subsequent conventional curettage may still be necessary as suggested by Kraus[9] if: (1) the original sample does not explain the patient's symptoms; (2) the biopsy shows hyperplasia and cancer still remains to be excluded because the sample is small and focal (and does not always involve the cervix); and (3) carcinoma is detected, but very small samples do not identify the nature of the neoplasm.

Method

Our 200 patients, ranging in age from 17 to 76 years *(Table I),* were seen in the office as appointments or consultations. The distribution of the presenting complaints and symptoms is shown in *Table II.*

Routine pelvic examination with taking of a Pap smear and colposcopic examination is performed as in-

TABLE I

Age	*Patients*
10-20	8
20-30	40
30-40	51
40-50	53
50-60	27
60-70	16
70-80	5
Total	200

* VABRA® Aspirator, Sparta Instrument Corporation, Fairfield, NJ 07006.

Address reprint requests to Dr. Bailey, The Hertzler Clinic, Halstead, KS 67056.

TABLE II

Symptoms	*Patients*
Postmenopausal bleeding	26
Dysfunctional uterine bleeding	143
Uterine fibroids	1
Amenorrhea	1
Postabortion menorrhagia	1
Menorrhagia	6
Atypical in previous conventional D & C	2
Normal Pap smears	3
Tremor of the eye—rule out pelvic pathology as primary source	1
Cystic hyperplasia previously diagnosed by curettage	2
Cervicitis	1
Infertility	5
Endometritis	8
Total	200

TABLE III

DIAGNOSIS ON SURGICAL PATHOLOGY REPORT

Proliferative endometrium	91
Secretory endometrium	45
Interval endometrium	5
Chronic endometritis	8
Squamous metaplasia of endometrium	2
Benign endometrial polyp	3
Hyperplasia of endometrium includes modest atypical type, senile (Swiss cheese), benign polypoid, cystic	22
Atrophic endometrium	3
Adenocarcinoma	3
Insufficient material for diagnosis	18
Total	200

dicated. The uterus is then sounded with a sterile uterine sound. Occasionally it is necessary to steady the cervix with a single tooth tenaculum on the anterior lip of the cervix. The cannula is passed through the cervix and the pressure-equalizing holes are occluded. The patient is reassured about the unusual and possibly disturbing noise of the electric pump. After a very few strokes the cannula is withdrawn sufficiently to allow airflow to carry curetted material into the container. When material lodges in the end of the curet, it may be retrieved by occluding the proximal part of the cutout which results in its aspiration into the container, or it may be removed with a #20 gauge needle after the procedure is concluded. On completion, the suction tubing is removed and the cap is closed on the container. The cannulated top is replaced by the plain one after half filling the container with 10 per cent buffered formalin.

Discussion

Patient acceptance was found to be good and while the procedure is not painless (as was reported by *McCall's Magazine*[10]), in this series it has produced only two adverse reactions. One patient vomited her lunch and another patient had a syncope attack. No patient has declined to repeat the test when that was found necessary.

In addition to its use for benign conditions, the aspirator has a useful role to play in screening for endometrial carcinoma *(Table III)*. Now that women are living longer and the average of the menopause has increased to about 50-53 years, carcinoma of the endometrium is increasingly common in the early fifth decade as well as in younger women.

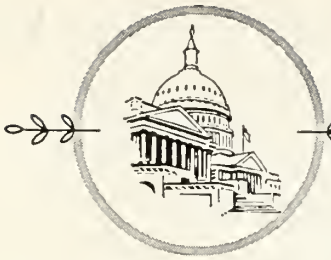
The saving in time, money, and hospital utilization with a possible general anesthetic is obvious. Depending on local costs, the savings can range from 50 to 90 per cent. All Blue Shield plans provide coverage and usually pay in full, as do most private companies.

Conclusion

The disposable aspiration curettage can be recommended for use by the private physician in his office and has good acceptance by patients. In addition, the pathologist is usually satisfied with the size and sampling of the material for his evaluation. It is to be hoped that Novak's recommendations of 40 years ago will be sustained this time.

References

1. Novak, E.: Suction curet apparatus for endometrial biopsy. *JAMA* 104:1497, 1935.
2. Novak, E.: Diagnostic and therapeutic applications of uterine suction curette. *Surgery* 1:610, 1937.
3. Jensen, J. G.: Vacuum curettage. Outpatient curettage without anesthesia. A report of 350 cases. *Dan. Med. Bull.* 17: 199, 1970.
4. Denis, R., Jr.; Barnett, J. M. and Forbes, S. E.: Diagnostic suction curettage. *Obstet. Gynecol.* 42:301, 1973.
5. Walters, D.; Robinson, D.; Park, R. C. and Patrow, W. E.: Diagnostic outpatient aspiration curettage. *Obstet. Gynecol.* 46:160, 1975.
6. Barnett, J. M.: Suction curettage on unanesthetized outpatients. *Obstet. Gynecol.* 42:672, 1973.
7. Bjerre, B. A.; Gardmark, S. A. and Sjöberg, N. O. J. A.: Aspiration curettage—a new diagnostic method. *J. Reprod. Med.* 7:221, 1971.
8. Cohen, C. J.; Gusbert, S. B. and Koffler, D.: Histologic screening for endometrial cancer. *Gynecol. Oncol.* 2:279, 1974.
9. Kraus, F. T.: Question and answer on "office aspiration curettage techniques." *Obstet. Gynecol.* collected letters XVI 32, 1975.
10. Mercer, Marilyn: New tool for detecting cancer. *McCall's Magazine* CI:48, 1974.



Socio- ECONOMICS

Interviewing for Good Results

Ed Note: This is the second in the series of articles prepared by the AMA Department of Practice Management, Division of Medical Practice. The subject of practice management has become more critical in recent years. To assist the physician in a smoother operation of his office, the Department has produced workshops for medical assistants dealing with such aspects as collections, public relations-telephone techniques and office management, as well as practice management workshops for the new physicians. The Kansas Medical Society Executive Office will present such workshops upon demand by members.

THE PERSONAL interview provides the major opportunity for you to talk face to face with the job applicant. Your decision on whom you will hire depends more on the outcome of the personal interview than the evaluation of the written resume or application.

It is important that the interview accomplish your objective rather than be just a friendly chit-chat. Professional consultants have indicated that the cost of recruiting, hiring and training a new employee, considering the non-productive time for both the trainer and trainee, is $5,000.

Physicians often tend to hire under pressure to fill a position, and in the hurry the interviewing is limited or hastily done. This can result in poor decisions and create a "revolving door" employee problem.

How to interview for good results? It is not difficult if the following simple guideline is followed:

Prepare: job description.

Conduct Interview: establish rapport; clarify purpose; effective questioning; active listening; documentation of key points.

Close the Interview: check interview objectives; maintain rapport; close smoothly; what happens next? when?

Reflect and Review: check references; complete all documentation; evaluate data according to the decision criteria.

You are ready to interview when the guideline and the game plan are established. Have the written job description plus a completed application or resume in front of you. Make notes of areas that you will want to investigate further. For instance, if an applicant shows a gap of several years' non-employment, check to see why (possibly he/she might have gone back to school, helped with a family business, etc.).

By giving applicants a copy of your written job description prior to the interview, the applicant is able to ask questions relating to particular duties of the job and the exact tasks that are required. Not having a job description may often result in this type of conversation three months after the interview: "I didn't know I would be expected to help out in the back office. . . . I get sick when I see blood. . . . I'll have to look for another job; wish he had told me this before I was hired." Room for additional tasks and responsibilities to be learned can be indicated in the job description by listing primary and secondary duties.

The interview should be conducted before or after office hours to avoid interruptions. If the office arrangements allow, place the applicant adjacent to the interviewer, rather than in front of the desk with the interviewer behind the desk. A desk can be a barrier to a friendly give-and-take conversation, preventing an atmosphere in which the applicants feel free to tell you about themselves.

What type of questions should be asked of the applicant? Questions that have already been answered on the application or resume should be omitted. Questions that will elicit more than a yes or no answer should be asked. The objective is to get and give information. The interviewer needs to tell the applicant exactly what the job duties are, salary, working hours, office policies, and benefits. And he will want to receive information that will help him decide whether the person is adaptable, a good communicator, reliable, has the technical skills needed, will be loyal, plus a host of other qualities. It can be done by being a good listener.

Here are a few interviewing questions that elicit

good information and will produce more than yes/no answers:

"What is one of your most significant on-the-job accomplishments?"

"How do you feel about asking patients to pay for their medical services?"

"Sometimes it is necessary that we work late to finish seeing all the scheduled patients. How will this affect your personal life if you don't always get out on time?"

Once the interview is completed it is necessary to check the references. A large medical employment agency found that only 10 per cent of physicians bother to check references before they hire. Only the references can provide the information on absenteeism, promptness, etc. References should be obtained orally, since there may be a reluctance to put in writing derogatory information which often will be shared over the telephone. Caution should be exercised of a vindictive past employer—a decision on hiring should not be based on one reference check.

After the selection of the best candidate for the job, another final, short interview may be helpful. At that time, both the interviewer and the applicant will have some specific questions that may not have been brought out in the preliminary screening discussion. After a commitment from the applicant of choice is received, the number two and three candidates should be told that the position has been filled. This is not only a common courtesy on the part of the interviewer, but the call can be used to keep the door open for future hirings, if further expansion of staff is anticipated or if the new hiree does not work out. The applications should be retained in the file at least until the new employee has proven satisfactory.

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Help me to listen patiently, diagnose carefully, prescribe conscientiously and follow through faithfully.

Teach me to blend gentleness with skill, to be a doctor with a heart as well as a head.

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Show-and-tell time

As the professional advertising hassle has again emerged on the medical scene, our early thought was that the profession had many concerns of greater moment. The feeling was one of annoyance at the return of a problem we had thought suitably and (for the most part) agreeably disposed of. But perhaps it merits more respect if for no other reason than the company it is keeping.

The prohibition of advertising on ethical considerations admittedly has appealed more to physicians (and other professionals) than it has to those whose economic well being is more directly related to the activity, notably our friends of the communications media. The matter has returned by a rather circuitous route and in the back door for which much credit can be given to the consumer movement. In pressing for dissemination of physicians' vital statistics—at least education, qualifications, and basic charges—professional consumer advocates have made an end run on the ethical objections by their "patients' rights" ploy. Now the courts have established that the professions cannot prohibit advertising by their members—obviously not equivalent to forcing them *to* but close enough to put the advertising industry on the red alert.

In the "Kansas Press Looks at Medicine" column, we reprint two comments on the subject which underline the gulf between medical and journalistic thinking. In one case, a simple comment of testimony is taken as organized medicine's "principal argument" about advertising—about like considering the kick-off the entire game. The other cites the economic aspect, assuring us (even while invoking the spirit of free enterprise) that the contribution of this source of revenue to the financial support of the media would be insignificant and we agree it wouldn't match, for example, the supermarket account. The writer even resurrects the old "principle of the thing" reference, so maybe the business office isn't all that disinterested since the observation recalls Abe Martin's comment of many years ago: "When the feller says it ain't the money, it's the principle of the thing—it's the money." But the expense of advertising has never been a significant factor to the profession, and the point is that these writers along with many others simply will not accept that the medical objection to advertising lies in a genuine (and not baseless) concern over its abuse and the consequent disservice to the public, rather than selfish considerations.

At any rate, we have once more been through the parodies and satires, and at the moment are waiting to see just what will come of this release from ethical bondage which has deprived the public of its right to know, the profession of its obligation to inform, and the media of this economically inconsequential opportunity to strike a blow for freedom. We suspect an inquiring reporter would have a hard time finding a man on the street who has much idea of what it's all about but we also suspect that this individual, if found, would promptly blame it on some nefarious deed of the AMA. Ironically, the AMA does not prohibit advertising—it even has kind words for it. It does prohibit, by Judicial Council edict, solicitation. This semantic Mickey Mouse is presumed to stress the difference between the dignified dissemination of valid information (advertising) and the unprofessional promotion of self-interest by varying misrepresentations. In cutting to a troublesome stone, the Judicial Council scapel followeth a fine line.

Now it is as erroneous to speak of advertising as one thing as it is to consider physicians identical and unified. It is true that advertising in the pure sense is equivalent to informing, but only in the academic sense. It is informing with a persuasive intent. Most physicians feel the potential for abuse is so inherent in the advertising process that total restraint is the only feasible attitude for those providing a service of the nature of medical care. If the mechanism could be limited to the "directory" approach—a formalized listing of who, what,

where, and when—it could serve a purpose. That this has not been pursued more vigorously by physicians in the past reflects their supposition that such has always been available anyway.

However, the current consumer efforts insist that, at the least, such information should include, how qualified and how much. The problem regarding qualification is how, even with the listing of details of training and experience, this can be translated into what is best for a given patient. As to cost, a listing of basic charges would be virtually meaningless, since most patients incur additional—and legitimate—charges which cannot be predicted or interpreted beforehand. The more likely result would be that the patient, armed with his price list, would be incensed at additional charges, however legitimate. It has even been suggested that this fee scheduling will create a healthy competition and help reduce health care costs. (You have no doubt been impressed by the manner in which unbridled advertising in the general market has held prices down in recent years.) This is not a plea for fee secrecy—only an observation that there is still only one valid way for this fee matter to be handled, and that is by direct physician-patient communication.

Most physicians have simply felt that advertising isn't good business. Dressed up, this objection is called ethics, but in its work clothes it means that the ease of abuse, the harmful image created by the mavericks, and the consequent harm to patients makes it counterproductive. It must be admitted that there have always been physicians who promoted their own self-interest by pursuing different types of attention-getting activities as well as the more dignified exploitation of legitimate publicity. Physicians know better than any the ease with which attitude, innuendo, and utilization of the public image can be turned to professional advantage. To a degree, this has to be tolerated since it comes within the range of personality differences and individual qualification which are not necessarily unhealthy—in fact constitute the main basis of the exercise of patients' choice. Concomitantly, physicians know better than any others the susceptibility of patients and their families to distorted or misleading information.

Advertising can be the high and valuable enterprise its purveyors claim, but inherently it lends itself more than any other form of communication to excess in its message. This is true whether it promotes automobiles, laundry soap—or medical practice. But it should be recognized that the current interest in physician advertising is but one part of a general trend which we would call the secularization of medicine. "Socialization" might be a better term, but this has come to have a specialized economic connotation which goes only part way in stating the present situation. Perhaps as basic as any characteristic of the age is the displacement of the physician from the traditional authoritative role of other times to that of a mortal component of a community effort—whether the small medical community surrounding the individual patient or the public community including, as a part, all the medical care elements.

Changes in the form of medical practice have favored the intrusion of advertising methods into the scene. The increase in group practice, even the impersonalization of incorporation of a solo practice, introduce a detachment of the individual physician from the process of advertising, so there is some avoidance of the onus. The corporate connotation blurs the concept of self-promotion. And there has been a blunting of the hostility that was long directed at groups because they were able to achieve press and public comment denied to the individual practitioner.

Consider some of the other actions confronting us. The FTC seeks to condemn organized medicine (AMA) as acting in restraint of trade. At this writing, official decision has not been rendered, but the fact that the gauntlet has been cast reflects the attitude of at least part of the public through its bureaucratic servants. Advertising of all health services is only a part—but an integral part—of this contention, and it is the avowed intent of some to take from the physicians the primary authority and responsibility for medical service which has been theirs by training and performance through the ages. One proposal, for example, advocates the elimination of all medical licensure—nominally to get the government out of the picture but based on the belief that all health care providers should compete on an unrestrained basis.

Consider, too, the malpractice situation. Whatever the physician-lawyer adversary relationship, there is an obvious increased willingness of patients to vent their anger over their medical mishaps whether inherent in the process, induced by the physician, or simply a demonstration that the physician is less than God.

Consider, too, the demand for a broadened medical base which has come from within the profession as well as without. The physician's traditional assistants, primarily nurses, have become increasingly insistent upon greater recognition and responsibility and physicians have, whether intentionally or not, abetted the process as they sought relief from practice pressures. At the same time, the public has indicated a preference for availability of limited medical care (with its implied entrè to a higher level if necessary) rather than go without or wait overlong for physician care. One wonders if this may not

lead to an increasingly specialized role for the physician, the very thing the critics have been citing as the physician's lack of concern for the patient as an individual.

And consider, too, the increasing emphasis on self-care. Again it is apparent that these activities are extensions of traditional practice but with the physician excluded or significantly displaced in action and authority. It is worth noting that the successes of this traditional practice have played a prime role in setting up this tumultous scene. Would, for example, the back-to-nature advocates be promoting the return of home deliveries if medical progress—including hospital care—had not rendered the process of childbirth sufficiently safe that the risks of home delivery can be invited in the name of social fulfillment?

And so it goes. It is not so much that advertising is of minor importance but that it is only part of the context of this reassessment of the physician's role and purpose. Interestingly enough, it has been reported that the courts are showing signs of departing from the "captain-of-the-ship" doctrine. Before we celebrate this possible relief from one category of pressure, perhaps we should ask if this is not another indication that the captain is being increasingly confined to quarters by the crew and passengers.—*D.E.G.*

Guest Editorial

Better Breathing for Kansans

DR. GEORGE A. VRANEY, M.D.,* ***Halstead***

KANSANS may soon have the opportunity to participate in educational programs aimed at the improvement of care of patients with chronic lung disorders. In recent years, many programs have been established throughout the country to improve public understanding of emphysema and related disorders through the support of the American Lung Association and the state lung associations. Victims of these disorders are encouraged to seek medical attention through such programs at earlier stages in an effort to prevent further deterioration, and patients and their families have an opportunity to enhance their understanding of the disease and potential treatment and rehabilitation.

The success of many of these programs has been measured in prolonged working years, decreased hospitalizations, and a decreased burden on health care providers and on tax supported health and welfare programs. Success has depended heavily on the participation and support of the medical community, which has been gratifying. Kansans deserve no less.

The Kansas Lung Association, utilizing approaches successful in several other state programs, hopes to implement a three-phase program to augment public and patient education: (1) the presentation of an evening seminar on COPD open to all interested Kansans including patients, families, and health care workers; (2) an extensive program of education in treatment and rehabilitation for patients with chronic lung disease and their families; and (3) the third phase will encourage the establishment of "Better Breathing Clubs" throughout the state to provide for both a social and ongoing educational setting for these patients and their families.

The organization and development of programs of such depth are formidable, and because of the large distances and few population centers involved they will rely heavily on the participation of physicians throughout the state. Physicians interested in the program, especially those with training in lung disease, will be needed for the local organization of the rehabilitation programs. The support of all physicians in the identification and referral of individuals who are likely to benefit from the program will determine the success of the effort. Input and recommendations in these early stages of planning and development will be most valuable.

* Chairman, Patient Education Subcommittee, Kansas Lung Association Task Force on COPD.

KMS Obituaries

WILLIAM W. ABRAMS, M.D.

Dr. William W. Abrams, 70, died October 20, 1977, in Kansas City.

Dr. Abrams was graduated from the University of Kansas School of Pharmacy in 1928, and from the School of Medicine in 1932, and had practiced in Kansas City for 44 years prior to his retirement in 1976. He had served as president of the Wyandotte County Medical Society and was active in various medical organizations.

Survivors include his wife and three sons. A memorial fund has been established with Congregation Ohev Sholom.

KENNETH E. CONKLIN, M.D.

Dr. Kenneth E. Conklin, 74, died September 22, 1977, in Abilene, where he was born on October 4, 1902.

Dr. Conklin graduated from the University of Kansas School of Medicine in 1928. He served as assistant surgeon at the Federal Penitentiary in Leavenworth for three years. He returned to Abilene in 1932, where he practiced until his retirement in 1975.

His survivors include his wife, two daughters, and three sons. Memorial contributions may be made to the Abilene Memorial Hospital.

LELAND L. HOLBERT, M.D.

Dr. Leland L. Holbert, 62, died November 10, 1977, in Kansas City. He was born in Muskogee, Oklahoma.

Dr. Holbert graduated from the University of Kansas and Howard University, and had practiced for many years in Kansas City.

Survivors include his wife, a son, and two daughters.

CECIL C. HUNNICUTT, M.D.

Dr. Cecil Hunnicutt, 73, died November 24, 1977, in Sabetha. He was born March 17, 1904, in Giltner, Nebraska.

Dr. Hunnicutt received his medical education and training in California, and served in an Army Air Corps medical unit prior to establishing a practice in Sabetha. He was active in various medical and civic organizations.

Survivors include his wife, a son, and three daughters. A memorial fund has been established.

WILLIAM J. PORTER, M.D.

Dr. William J. Porter, 51, of Pratt, died August 17, 1977, in Walsenburg, Colorado. He was born February 5, 1926, in Elkhart.

Dr. Porter graduated from the University of Kansas School of Medicine and had practiced in Pratt since 1968.

Survivors include his wife, a son, and two daughters. A memorial fund has been established with the Pratt County Hospital Gifts and Bequests Committee.

MARGARET L. SHINEY, M.D.

Dr. Margaret L. Shiney, 50, died October 2, 1977, in Topeka. She was born November 27, 1926, at Hays.

Dr. Shiney graduated from the University of Kansas School of Medicine in 1954, and practiced in Wichita prior to joining the staff at Memorial Hospital in Topeka, where she served as chief of the department of medicine from 1968 until her retirement in 1975.

She is survived by two brothers. Memorial contributions may be made to the First Presbyterian Church in Topeka.

FRANCIS M. STONE, M.D.

Dr. Francis M. Stone, 62, died October 29, 1977, at Fort Scott.

Dr. Stone was born September 29, 1915, in Morrisonville, Illinois. He received his medical training at the University of Kansas School of Medicine and at Tulane University Medical Center.

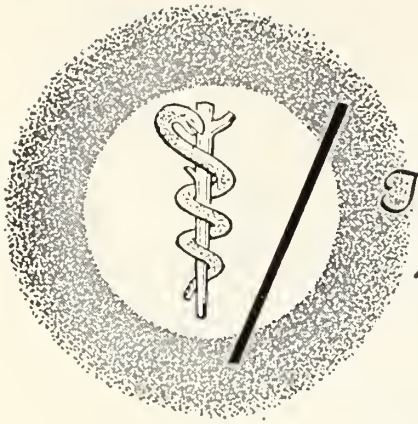
He is survived by his wife and two daughters.

ALONZO A. TOWNER, M.D.

Dr. Alonzo A. Towner, 67, died September 23, 1977, at Varadale, Washington.

Dr. Towner was born in Chicago, raised in Wichita, and was graduated from the University of Kansas School of Medicine in 1935. He served 32 years in the Air Force, and was surgeon general from May, 1970, until his retirement in July, 1972.

During his tenure as Surgeon General, he was made an honorary member of the Kansas Medical Society.



The Kansas Press Looks at Medicine

Fuss Over Doctor Ads

The Federal Trade Commission has proposed relaxing the restrictions on advertising by doctors. The American Medical Association balks at this. The AMA may have good reasons for its position, but a principal argument made in its behalf at an FCC hearing actually tends to undermine that position.

Speaking as attorney for the AMA, Newton Minnow told the regulatory agency: "What we are against is false and deceptive advertising, ads that say, 'I can cure cancer for $50,' and we will not tolerate that." Well, who would? No one—neither the patients nor reputable doctors—wants that kind of advertising.

What the public would like, what the FTC says it wants the public to have, is access to reliable information about medical prices and services. There is nothing demeaning or unprofessional about making such information available, through advertising, in a dignified and responsible way.

As for doctors who advertised that they could cure cancer for $50, or get rid of those nagging low back pains in one visit at a bargain rate, well, that is something the medical profession ought to be able to control. Placing tight restrictions on doctor advertising because a few might abuse the privilege deprives consumers of information they are entitled to and ought to have. —*Winfield Daily Courier,* September 20, 1977.

Advertising Pays

The bars against competition in the professions are coming down, and free enterprise is scoring again.

The newest example is the accounting business. The National Society of Public Accountants for years has ruled against permitting an accountant to advertise professional services. The Society now has lifted that ban.

The change stems from the recent U. S. Supreme Court ruling which said attorneys must be permitted to advertise. The Society says its 15,000 members now may advertise their services, their educational background, professional accomplishments, and fees.

Newspaper comment on such actions is tinged with a touch of conflict. Newspapers do sell advertising, and certainly would welcome professionals to the fold. However, the dollars to be garnered from this source would hardly pay the cost of turning on the newsroom lights. It isn't the money, as you may have heard, it's the principle of the thing.

The principle in this case is not only legal but also economic. Advertising bans do go against the grain of free enterprise. Consumers of professional services will be in better position to buy than they were when the only information they had about a professional was word of mouth. It is possible that consumer costs will decline, under competitive pressure.

Another advantage in advertising is to the professional. When people have more information about the background of a lawyer, or accountant, or physician; when they know what a service is worth, and how to procure it, they are more apt to consult professionals.—*Hutchinson News,* August 31, 1977.

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KANSAS PSRO MOVES

The Kansas Foundation for Medical Care (PSRO) offices, formerly housed in the Kansas Medical Society building, have been moved to 1263 Topeka Avenue, Topeka, KS 66612. The new phone number is (913) 233-2217.

Kansas PSRO has received its conditional status and has contracted with HEW to implement the in-hospital utilization review.

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Medical Aspects

Head Protection for Cyclists

Helmets, as a protective device, have been around literally for thousands of years, primarily in the field of military activities. In more recent history, however, they have provided head protection in many areas, such as: contact sports, racing, cycling, and particularly in industry.

The concern here is with their use in motorcycling. With the advent of lighter, more economical motorcycles, the number of vehicles has increased tremendously. The number of deaths has risen to about 3,000 per year, and occurs at a rate more than three times as high as that in automobile crashes. Since the motorcyclist's head most often makes contact with the road, or some other non-forgiving surface in a crash, the need for head protection is obvious.

The question is what kind of protection. It was not until 1957 that a comprehensive testing program was established to set design standards based upon actual performance requirements in a crash situation. Those standards have become the basis for the American National Standards Institute Z90.1 requirement and the Federal Motor Vehicle Safety Standard No. 218 which was adopted on March 1, 1974. These, then, are the protective devices available, and they are what this paper shall discuss.

Motorcycle crash studies, especially concerning the vulnerability of the unprotected head to serious injury, have been conducted in England, even prior to World War II. This early research indicated that fatalities resulted in more than 90 per cent of crashes involving head injuries. With increased helmet usage starting in 1960, the fatalities from head injuries dropped to about 50 per cent. A general search of the current scientific literature indicates that about 80 per cent of motorcycle-crash injuries are injuries to the head, and that the chance of sustaining a fatal head injury is 65 per cent greater for an unhelmeted cyclist. In fact, one study indicates that fatal or serious head injury is three times greater for non-helmeted motorcyclists. Since head injuries almost always present a crucial problem, it is not at all difficult to justify a serious medical interest.

Accordingly, a number of organizations, such as the American Association for Automotive Medicine and the National Safety Council, along with thousands of individual physicians and concerned citizens, have supported mandatory motorcycle helmet legislation. In accordance with the provisions of Highway Safety Program Standard No. 3, most states had passed such legislation. In addition, Australian and Canadian Provinces had passed their versions. Some motorcyclists, however, are strongly opposed to any mandatory requirement. In fact, after the power of the US Secretary of Transportation to enforce the mandatory use of helmets was removed, the motorcyclists, or their representatives, managed to convince a number of states to repeal their mandatory helmet usage laws in 1976, and more seem to be following their lead.

We are not concerned here with the arguments the motorcyclists use in opposing helmet legislation, except as they relate to questions of morbidity and mortality in motorcycle crashes. However, medical implications have been raised concerning the reliability and efficacy of helmets. It has been claimed, for instance, that helmets do not reduce head injuries, but cause them, and that helmets increase the likelihood of crashes by interfering with vision and hearing. Such claims have been very effective in repealing helmet legislation, with an accompanying great reduction in helmet usage. Such claims can only be proved or refuted by medical research. They involve complicated questions that must be addressed most carefully and from a completely scientific viewpoint.

Accordingly, the American Medical Association invited a group of experts to a Conference in Washington, DC on April 14, 1977, to discuss the medical aspects of the overall problem. Although there is interest and need for exploring head protection for drivers and passengers of all motorized cycles, and even those on non-motorized types, the greatest part of the concern is with the driver and passenger of the motorcycle.

The primary objective of the Conference, therefore, was to address, from a medical and scientific viewpoint, a number of issues with medical implications. These included all aspects of helmet usage in which questions of head, neck, and shoulder injuries might be involved. Also addressed were questions of helmets in relation to vision and hearing, the effects of accessories fastened to the helmet, as well as psychological effects.

Conference participation was limited to 21 individuals, mostly physicians and medically-oriented researchers with experience and background in this area. Representatives of the motorcyclists, as well as the manufacturers, were invited to give their perspectives.

Presentations

It was pointed out that helmet design, especially in relation to energy absorption capabilities, is not the result of arbitrary decisions, but rather, the result of a sophisticated scientific technique with the sole purpose of protecting the head inside of it. The design, of course, assumes that the helmet will be worn properly.

Perhaps too much emphasis has been placed upon the fact that a cyclist enormously increases his chances of staying alive if he wears a helmet, since cyclists in crashes do not always die—the incidence of non-fatal head injury may be 20 times that of fatal head injury. Although such injuries may be non-fatal, they often result in crippling and paraplegia. In addition, they often cause permanent and disabling brain injuries, which often do not appear in the morbidity statistics. Of the 471 cases studied, there were no injuries to the head in the approximately 40 per cent of cyclists who wore helmets. Even in the two fatalities in the helmeted group, which were caused by severe injuries to other parts of the body, the heads were uninjured.

The on-going research in Ottawa, Canada, where mandatory helmet legislation has been enacted, shows that while the great majority of motorcyclists wear helmets, on the average, most helmets generally used are not of as good a quality as those in this country, and the statistics are not comparable with those in the US studies. Important to note, however, is that even when cyclists with helmets sustained head injuries, the vast majority of those were in the minor to moderate categories. It can be stated that helmets do not *cause* the injury, but where injuries result, the helmet has already spread the force of the impact but was not able to eliminate the force entirely. It has been demonstrated that a full-face coverage helmet can prevent or lessen the severe temporal and facial injuries, which usually tend to be of high severity, and therefore great consequence in helmet design.

Direct Medical Aspects

Cervical Spine

Definitive research directly relating cervical spine injuries to helmet usage is needed. However, there is no evidence to indicate that motorcycle helmets *cause* the spinal injuries that are occasionally found in helmeted cyclists. Based upon currently available literature, personal experiences and background, cervical spine injuries are possible, whether or not the cyclist is wearing a helmet, depending upon the circumstances of the accident.

The majority of cervical spine fractures are usually caused by flexion, not hyperextension. As helmet design becomes more sophisticated and more protective of the head, these improvements may increase one's chances of flexion. However, it is obvious that energy not absorbed by the head is not necessarily absorbed by the neck.

Based upon currently available evidence, the likelihood of neck injury caused by the helmet is almost impossible, and where it has occurred, the resulting injury has been no more than a minor sprain. If the forces are strong enough to result in such an impact with a helmet, they would very likely cause fatal head injury to the unhelmeted cyclist.

There is no evidence to support the contention that a helmet, if properly fitted and properly worn, causes head or neck injury as a result of head rotation. Rotation of the helmet itself on certain types of impact can be a problem in identifying injury attenuation, because in some cases it may appear that the helmet caused the injury when, in fact, the helmet rotated, exposing the head to injury, and then rotated back to cover the injury. This may occur when the chin strap is worn loosely or is unfastened. However, the helmet itself cannot be faulted in injuries involving rotation.

Clavicle

During the 1960s, full-facial coverage helmets were banned from racing events in England, because there was suspicion that they contributed unnecessarily to clavicle injuries. However, clinical examination of cases involving clavicle injuries indicates that these result from the elbow or arm impacting with an exterior object, thus forcing a transfer of energy to the clavicle. The injury patterns in these cases show clearly that such injuries could not be caused by the helmet.

Chin Strap and Chin Cup

Two issues are generally raised when discussing the chin strap: (1) Does the strap itself cause injury?; and (2) Is the maximum breaking strength too high?

There was consensus that the chin strap, as presently designed, is not a causative factor in neck injury, if properly worn.

In answer to the second issue, there is evidence to show that, even at a breaking strength in excess of 600 lbs., which is much greater than the strap loading experienced in most motorcycle crashes, the most significant injury will be a minor abrasion.

There is very little data concerning the injury potential of the chin cup itself. Chin cups do, however, move the retention system forward, thereby decreasing the chin strap's ability to retain the helmet during a crash. For this reason, the Safety Helmet Council of America strongly opposes the use of chin cups. They are likewise banned in Great Britain.

Peripheral Vision

Opponents of helmet usage claim that helmet wearing causes a definite serious reduction in peripheral vision. A recent study of the National Highway Traffic Safety Administration has proven that full coverage helmets, the most common type in use, restrict horizontal peripheral vision by less than 3 per cent. In addition, the full-facial coverage helmet, which complies with both ANSI Z90.1 and FMVSS No. 218, provides a peripheral restriction only slightly more than the full coverage helmet. Furthermore, *all* approved helmets tested exceeded 180°, well above the minimum required by state licensing agencies for operators of motor vehicles; namely, 140° total peripheral vision in the horizontal plane. There is evidence that the great majority of crashes occur well within the 40° field of vision directly to the front of the motorcyclist, thus further negating the peripheral vision argument.

Should the field of vision be extended in present day helmets? The Conference strongly urged that any such extension be opposed, because it would add to the injury rate since it would be necessary to cut away a larger amount of the helmet, thus affording less protection to the crucial upper facial and temporal areas.

Helmet Weight

Helmet weight varies considerably, depending upon design, construction, and materials used. The weight of the helmet per se, however, is not nearly as important as the center of gravity. If the center of gravity of the helmeted head is basically the same as that of the head itself, the wearer should not experience injury. The situation is not the same as in a motor vehicle crash, where the body is restrained. In motorcycle crashes, the body of the cyclist can move along with the head and neck, so the weight added by the helmet will not exacerbate the problem. It has been shown that automobile race drivers, whose helmet weight was increased considerably, do not show any increase in neck injuries.

A more important consideration than weight is the thickness of the helmet, since performance upon impact is enormously different in helmets with as little as ¼ inch difference in thickness.

The possibility of rider fatigue caused by strained neck muscles resulting from heavier helmets is not sufficient to cause a significant accident potential. In addition, there are case studies and personal interviews indicating that riders are able to accommodate easily to any helmet within a several-pound differential, and do not experience problems directly related to helmet weight.

Auditory Aspects

As with visual impairment, allegations have been made that helmets seriously impair hearing capability. Motorcycles can create 105 dbls. Obviously, it is necessary that, in order for a cyclist to hear other sound, it must be louder than that resulting from the cycle. Consequently, as long as the rider can hear the motorcycle itself while wearing a helmet, he can also hear any other sound with a favorable signal-to-noise ratio—one greater than 105 dbls.

The helmet does reduce the loudness of both the sound of interest and the motorcycle noise proportionately, but does not alter the signal-to-noise ratio between the two sounds. Critical traffic signals are not lost and, in fact, may be helped—when wind noise is minimized, the more critical sounds become louder.

It has been claimed that helmets can cause hearing damage. To the contrary, in the normal traffic stream, the helmeted cyclist is subjected to only 93 dbls. in a situation where the unhelmeted cyclist is subjected to 105 dbls. While hearing injury can result from continuous exposure even at the lower rate, the allegation that helmets are responsible for hearing loss is patently false.

Related Medical Aspects

Alcohol Involvement

A number of recent studies, including one done among military personnel, indicate that alcohol is involved in a disproportionate number of fatal motorcycle crashes. In fact, the USC MDAI team found that alcohol is involved in over 50 per cent of the motorcycle fatalities investigated. It was pointed out that alcohol-related motorcycle crashes are very similar to those involving motor vehicles.

Speed

The USC MDAI team, through vehicle deformity studies, indicates that excessive speed is not a factor in the majority of motorcycle crashes. In fact, California statistics show that the majority of crashes occur at an average speed of 32 mph.

In motorcycle accidents involving excessive speed, the helmet should not be indicted for not affording adequate protection, because no protective system can be effective at upper limits.

Effects of Accessories

An increasing number of cyclists are adding accessories to the helmet, many of which are purely for decorative purposes. It is emphasized that any added equipment, such as rear-view mirrors or visors that necessitate drilling holes in the helmet, alters the structural integrity of the helmet and is therefore extremely hazardous. In addition, these effects, if not flexible or breakaway, can have extremely dangerous results upon impact.

Tinted Face Shields/Visors

Many cyclists use tinted face shields or visors that pro-

vide full-face coverage. While the intent of these devices is good, the motorcyclists sometimes continues to use them for night or twilight driving as well, and is not always aware of the gradual visual impairment that occurs. Also, certain shades can filter out the color of traffic signals, thus adding a potential hazard. There are at least four accident cases reported in the literature involving darkened visors or tinted shields.

Thermal Aspects

There is little argument concerning the fact that the helmet does cause a certain amount of discomfort during warm weather. However, there is no documentation to translate this discomfort into increased crash hazard. In fact, in tests conducted in Southern California desert races where ambient temperature reaches 120 F, a cooling effect in current design helmets was experienced.

Sense of Overconfidence

Some critics have pointed to the fact that a helmet provides the cyclist with a false sense of security, thus encouraging him to take unnecessary risks. Others feel, however, that cyclists who wear helmets, when not required by law to do so, are generally safer drivers—conversely, it is probably true also that cyclists who choose not to wear helmets do not associate the danger involved and are willing to take more risks than the helmeted cyclists.

Improper Helmet Removal

There is a possibility of EMS or ambulance personnel inflicting serious neck injury if they are not trained to remove a helmet from an injured cyclist. Two persons should be used; one to place his hands inside the helmet in order to hold the head rigid, and the other to pull the helmet open and remove it.

It was stated that the Department of Transportation has recently revised its training course for EMS paramedics to include a section on proper helmet removal. In addition, the Sports Car Club of America also has a monograph on the subject.

Recommendations

A number of recommendations are implicit in the foregoing material, but because of the gravity of the matter, they are set forth here clearly and precisely. The recommendations are based upon the expertise and research experience of the Conference attendees, as well as upon a preponderance of evidence in currently available scientific literature. The recommendations are:

1. Every individual who drives or rides a motorcycle should wear a properly fitted approved helmet;
2. Full-facial coverage helmets are strongly recommended, because of the extra protection they afford;
3. Since moped crashes subject victims to the same type of trauma hazards that endanger motorcyclists, mopedists should also wear helmets;
4. Bicyclists would be well advised to wear helmets, because when involved in a crash with a motor vehicle, they are exposed to the same forces a motorcyclist faces;
5. Because of the serious public health implications of the motorcycle accident problem, the medical and public health community should actively involve itself in promoting the use of safety helmets.

Acknowledgments

The American Medical Association is grateful to all of those who participated in the Conference on Medical Aspects of Head Protection for Cyclists, which was held in Washington, DC, on April 14, 1977, as well as to those who produced the research that was referenced.

References used in the above study are available from the American Medical Association.

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UNNEGOTIATED DEMANDS

The statistics so casually thrown about by political, self-styled consumer-sympathizers show that the major source of medical care payments is third parties. Insurers and government agencies, using premium and tax income, pay physicians and health care providers according to the terms of the contracts made with or for the insured. From the point of view of the insured, this is a seemingly painless method of financing health care.

The contracts, however, are separate transactions from the actual delivery of that health care. At no time during the process of buying and selling an insurance program are the health care providers consulted about their willingness to deliver the services specified or their acceptance of the payments to be made. As a matter of fact, the providers are ignored. And then, after the providers are called upon to deliver services, the fiscal intermediaries calumniate the providers for the size of their "usual, reasonable, and customary charges."

This unhealthy situation—having one's services bargained for without being given the opportunity to be in on the bargaining—was exacerbated by last year's Ford-United Auto Workers (UAW) negotiations for fringe benefits. According to Ernest J. Savoie of the Ford Motor Company's labor relations staff, "Rising health care costs, high absolute costs, and increasing utilization have spawned a host of analyses and possible approaches to . . . cost containment." He admits that these cost increases in part result from new negotiated benefits. He also admits that the major causes of Ford's increased costs of medical care are inflation and increased utilization by employees.

Those admissions out of the way, Mr. Savoie zeroes in on the subject dear to Ford's corporate heart cost containment. He becomes curious, looking for reasons. And he finds Ford's prime culprit—inpatient care. This he attributes to increases in both hospital admissions and lengths of stay. Although convinced that copayments at the point of service would make both patients and physicians more cost-sensitive, Ford failed to persuade the UAW to recognize the desirability of eliminating first-dollar coverage. Instead, the two parties decided that the Blues and other insurers in their plan should work on a cost-containment program. (Then they negotiated an estimated 34 per cent increase in benefits!)

That brings us to the buck-passing cost-containment "program" negotiated by Ford and the UAW. Unwilling to place at least part of the responsibility for cost-containment on themselves and on the beneficiaries of their negotiated benefit program, they have instructed their carriers to direct their efforts at the providers ". . . to initiate and pursue cost containment actions."

What do Ford and the UAW want?

First, universal utilization review "at the most effective level attainable, recognizing the need for local flexibility and adaptation, with definite goals of improvement over time." The Blues are to develop national criteria in order to get ". . . insight into admissions and length of stay." And in at least three geographical areas, the Blues are to initiate and monitor concurrent review of focused-review (*i.e.,* review of specific procedures) programs to zero in on admissions and length of stay as they are occurring rather than after the fact.

The second requirement of the Ford-UAW negotiations is annual cost reporting by the carriers, with the intent of developing a uniform cost-reporting system. The focal points of this reporting are determining: (1) the sum of the carriers' cost, quality, and utilization controls on the intensity and kind of care provided; (2) the efficiency of care; and (3) whether or not the care should have been given at all.

The third part of the program calls for five pilot programs in at least nine geographic areas. These trial programs include: (1) second opinion consultations prior to surgery; (2) hospital preadmission testing; (3) independent reviews of hospital admissions, lengths of stay, and quality of care by PSROs or medical foundations; (4) an evaluation of the services received against the patient's medical history and a treatment criteria screen for the diagnosis; and (5) dental auxiliaries programs to determine whether some services normally performed by dentists could be performed by dental assistants at lower costs.

The final part of the Ford-UAW cost containment program includes investigating such possibilities as: free-standing surgical centers; utilization review of X-ray and laboratory work in hospitals; correcting overbedding and underbedding by better utilization or converting facilities; and HMOs (either within or outside the carriers' systems).

An interesting contract requirement for these programs, which may have been an afterthought, is that "In the development of these pilot programs, the central plan, local plans, and commercial or other carriers shall secure the advice of professional and medical associations, as appropriate."

In a speech, Mr. Savoie rephrased it this way: "We have made a formal requirement that in designing these programs the Blues and other carriers consult with doctors, dentists, hospitals, or other professional groups. Involvement and counselling from such providers and professionals are key ingredients, *for they are the ones who must make the programs work.*" (Emphasis added.) The monkeys have been put on the providers' backs, even though they had nothing to say about what kind of monkeys or how many.

MEDICAL ATTENTION WHILE TRAVELING

American Express recently began notifying its cardmembers that the Card is accepted at more than 145 medical facilities throughout the US and Canada. The hospitals and medical centers were specially selected to be near places where most people travel.

According to Maurice Segall, President of the Card Division, "This is one time we hope our cardmembers won't have to use the card. However, we believe it is comforting to know that they can receive out-patient or emergency medical attention without delay or red tape, just by presenting the American Express Card."

Segall said one of the first hospitals to be signed up under the new program was St. Luke's Hospital in Phoenix, Arizona, where a vacationing family from France needed emergency medical attention for their little girl but didn't have the cash to pay for it.

"In a matter of hours we signed an agreement with the hospital, and the French visitors were able to charge the bill—more than $1,000—on their Card. It makes all the difference in the world for travelers far from home to be able to obtain medical aid when they need it." he said.

American Express expects to expand the service to include other hospitals and medical centers within the US and other major cities around the world in the future.

CERTIFIED MEDICAL ASSISTANTS

A total of 1,586 CMA certificates were earned by those taking the AAMA certification examinations in June 1977.

Of this total, 1,019 passed the basic Certification Examination, entitling them to use the initials CMA (Certified Medical Assistant) after their names. Specialty category certification was awarded to 567 candidates, with the following certificates earned: 173 Administrative (CMA-A); 372 Clinical (CMA-C); and 22 Pediatric (CMA-Ped).

The National Board of Medical Examiners is now working with the AAMA Certifying Board in designing next year's certification examinations.

Beginning in 1978, the examinations will be offered twice annually—in spring and winter—at more than 150 test centers across the country. The 1978 spring examinations, including the Basic Examination and the Administrative and Clinical Specialties, will be offered on June 2, 1978 (deadline: January 15, 1978). The 1978 winter offering, consisting of only the Basic Examination, will be administered January 26, 1979 (deadline: October 1, 1978).

The American Association of Medical Assistants, a national organization of more than 18,000 individuals employed by physicians in their offices, hospitals and other medical settings, offers these examinations as a service to both member and non-member medical assistants. Information may be obtained by writing the AAMA Certifying Board, One East Wacker Drive, Chicago, IL 60601.

AMA NEWS

A pilot seminar on the television phenomenon—its effects, processes and role in society—was sponsored recently by the AMA and the Television Awareness Training Program. About 65 psychiatrists, pediatricians and family physicians attended the AMA/T-A-T meeting in Chicago. The program emphasized constructive means of using television programming as an outlet for parent-child discussions on modern social values.

Continuing its campaign against TV violence, the AMA gave a $30,855 grant to the National Citizens Committee for Broadcasting. The funds will support NCCB's 13-week monitoring study of violence in television programming this fall. The new NCCB study, titled "Monitoring for an Apparent Victory," will document the nature and amount of the reported reduction in TV violence.

The date for the Quality of Life Congress IV, sponsored by the AMA with the cooperation of about 100 national organizations, will be April 17-19 at the Conrad Hilton Hotel, Chicago. The theme for the meeting will be "The Family."

Available from AMA: Guidelines for the medical director are covered in *The Medical Director in the Long-Term Care Facility.* Cost is $3.50 ea. for 1-10 copies; $3 ea. for 11-49 copies; and $2.75 ea. for 50 or more. . . . *Constitution and Bylaws of the AMA,* includes the AMA's Principles of Medical Ethics. Cost is $3.50 ea. for 1-10 copies; $3.35 ea. for 11-49 copies; and $3.10 ea. for 50 or more. . . . *The Path to Good Health Is Lined With AMA Publications,* a booklet for consumers, and *Sound Health Leadership Begins With You and AMA Publications,* a pamphlet for physicians, are available free of charge. Write Order Dept., AMA Headquarters.

Book Reviews

(Continued from page 492)

KAREN ANN: The Quinlans tell their story, by Joseph and Julia Quinlan with Phyllis Battelle. Doubleday and Company, Inc., Garden City N.Y., 1977, $10.00.

A familiar but poorly perceived dimension in the spiritual aspect of death is brought into perspective by the book, *Karen Ann.* Phyllis Battelle, in close cooperation with the Quinlan family, explores the conflict between the rights of the individual and of the family versus the prerogatives of the church, the dissenters in medicine, the law, and secular structures in society. In this drama, the church may be viewed as the curator of the soul, medicine as the curator of the physical body, and the law as the curator of the culpable; the body of society looks to this venerable triumvirate for the wisdom that offers optimal social benefits. The right to refuse extraordinary care, the right to die with dignity, the right to return to a natural state, the right to die naturally, the right to respond to God's call, if and when he calls—these are the spiritual issues researched as the triumvirate and society extract from the abstract the most exact and most pertinent meanings of the extraordinary, of dignity, and of natural state as these concepts apply to a body without the human entity that lies in medical escrow.

The book is recommended reading for all who wish to understand more fully the nature of death in our modern society, and the role, rights and responsibilities applicable to the family, the patient, and each of the professional curators.—*J.R.C.*

PHYSIOLOGICAL CHEMISTRY, 16th ed., 1977, by N. A. Tharper, V. W. Rodwell, and P. A. Mayes. Lange Medical Publishers.

Writing a book requires work, but writing a good book requires toil and skill. The authors have written a good book in a well organized and timely style. They have included a wealth of information that takes the reader through the chemistry of water, bioenergetics, the genetic code, fluid and electrolyte metabolism, nutrition and ends with the chemistry of certain tissues. They have used diagrams, charts, formulas and illustrations to succinctly convey messages where words are inadequate. Included is a glossary of abbreviations.

The authors have brought together in the introduction those pertinent aspects of general, organic, and structural chemistry that further enhance the material they have chosen to present.

The book could be improved. The introduction could include more information about weak and strong chemical bonding, and perhaps a bit more about orbitals. The authors define a number of concepts that the index does not carry, and since few people will read the book cover to cover, indexing and cross indexing would contribute to the joy of reading. The book also utilizes abbreviations that remain undefined or defined only by allusion, which contributes to a degree of imprecision that scientists should strive to avoid.

Nothing is beyond criticism, and real criticism is constructive; the authors are to be congratulated on an encyclopedic task well done.—*J.R.C.*

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Bactrim fights uropathogens in the urinary tract/vaginal tract/lower intestinal tract

Bactrim™ DS Double Strength Tablets

ROCHE

Each tablet contains 160 mg trimethoprim and 800 mg sulfamethoxazole.

Please see reverse side for summary of product information.

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For recurrent attacks of urinary tract infection in women

Bactrim™ DS Double Strength Tablets

Each tablet contains 160 mg trimethoprim and 800 mg sulfamethoxazole.

Just one tablet b.i.d. for 10 to 14 days

- Action at urinary/vaginal/lower bowel sites helps eliminate reservoirs of infecting organisms
- Distinctive antibacterial action plus wide spectrum helps eradicate recurrent UTI
- Low incidence of bacterial resistance in community practice
- Convenient *b.i.d.* dosage provides day-and-night antibacterial control
- Contraindicated during pregnancy and the nursing period. During therapy, maintain adequate fluid intake; perform CBC's and urinalyses with microscopic examination.

Before prescribing, please consult complete product information, a summary of which follows:

Indications and Usage: For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli, Klebsiella-Enterobacter, Proteus mirabilis, Proteus vulgaris, Proteus morganii.* **It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination.** *Note:* The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.

Also for the treatment of documented *Pneumocystis carinii* pneumonitis. To date, this drug has been tested only in patients 9 months to 16 years of age who were immunosuppressed by cancer therapy.

The recommended quantitative disc susceptibility method (*Federal Register*, 37:20527-20529, 1972) may be used to estimate bacterial susceptibility to Bactrim. A laboratory report of "Susceptible to trimethoprim-sulfamethoxazole" indicates an infection likely to respond to Bactrim therapy. If infection is confined to the urine, "Intermediate susceptibility" also indicates a likely response. "Resistant" indicates that response is unlikely.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; pregnancy; nursing mothers; infants less than two months of age.

Warnings: Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L. E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for infants less than two months of age.

Urinary Tract Infections: Usual adult dosage—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days.

Recommended dosage for children—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. A guide follows:

Children two months of age or older

Weight		Dose—every 12 hours	
lbs	kgs	Teaspoonfuls	Tablets
20	9	1 teasp. (5 ml)	½ tablet
40	18	2 teasp. (10 ml)	1 tablet
60	27	3 teasp. (15 ml)	1½ tablets
80	36	4 teasp. (20 ml)	2 tablets or 1 DS tablet

For patients with renal impairment.

Creatinine Clearance (ml/min)	Recommended Dosage Regimen
Above 30	Usual standard regimen
15-30	½ the usual regimen
Below 15	Use not recommended

Pneumocystis carinii pneumonitis: Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

Supplied: *Double Strength (DS) tablets*, each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100, Tel-E-Dose® packages of 100. *Tablets*, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 40, available singly and in trays of 10. *Oral suspension*, containing in each teaspoonful (5 ml) the equivalent of 40 mg trimethoprim and 200 mg sulfamethoxazole, fruit-licorice flavored—bottles of 16 oz (1 pint).

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